

# Aelian's

## *Characteristics of Animals*

Translated from Greek by A. F. Scholfield  
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### Wikipedia:

[Aelian](#), Claudius Aelianus, about 175-235 A.D.

[De Natura Animalium](#) *On the Characteristics of Animals*, in 17 books.

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## Books

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# *Characteristics of Animals*

1. PROLOGUE. There is perhaps nothing extraordinary in the fact that man is wise and just, takes great care to provide for his own children, shows due consideration for his parents, seeks sustenance for himself, protects himself against plots, and possesses all the other gifts of nature which are his. For man has been endowed with speech, of all things the most precious, and has been granted reason, which is of the greatest help and use. Moreover, he knows how to reverence and worship the gods. But that dumb animals should by nature possess some good quality and should have many of man's amazing excellences assigned to them along with man, is indeed a remarkable fact. And to know accurately the special characteristics of each, and how living creatures also have been a source of interest no less than man, demands a trained intelligence and much learning. Now I am well aware of the labour that others have expended on this subject, yet I have collected all the materials that I could; I have clothed them in untechnical language, and am persuaded that my achievement is a treasure far from negligible. So if anyone considers them profitable, let him make use of them; anyone who does not consider them so may give them to his father to keep and attend to. For not all things give pleasure to all men, nor do all men consider all subjects worthy of study. Although I was born later than many accomplished writers of an earlier day, the accident of date ought not to mulct me of praise, if I too produce a learned work whose ampler research and whose choice of language make it deserving of serious attention.

## **Book 1**

1.1 There is a certain island called Diomedea, and it is the home of many shearwaters. These, it is said, neither harm the barbarians nor go near them. If however a stranger from Greece puts in to port, the birds by some divine dispensation approach, extending their wings as though they were hands, to welcome and embrace the strangers. And if the Greeks stroke them, they do not fly away, but stay still and allow themselves to be touched; and if the men sit down, the birds fly on to their lap as though they had been invited to a meal. They are said to be the companions of Diomedes and to have taken part with him in the war against Ilium; though their original form was afterwards changed into that of birds, they nevertheless still preserve their Greek nature and their love of Greece.

1.2 The Parrot Wrasse feeds upon seaweed and wrack, and is of all fishes the most lustful, and its insatiable desire for the female is the reason why it gets caught. Now skilful anglers are aware of this, and they set upon it in this way. Whenever they capture a female, they fasten a fine line of esparto to its lip and trail the fish alive through the sea, knowing as they do where the fish lie, their haunts, and where they assemble. They prepare a heavy lead sinker round in shape and three fingers in length; a cord is passed through both ends, and it trails the captured fish after it. One of the men in the boat attaches to the side a weel with a wide mouth; the weel is then turned towards the captured Wrasse and slightly weighted with a stone of appropriate size. Whereupon the male Wrasses, like young men who have caught sight of a pretty girl, go in pursuit, mad with desire, each trying to outstrip the other and to reach her side and rub against her, just as love-sick men strive to kiss or tickle (a girl) or to play some other amorous trick. So then the man who is towing the female gently and slowly and planning to entrap (his fish), draws the lovers (as you might call them) with the loved one straight towards the weel. As soon as they come level with the weel, the angler lets the lead weight drop into it, and as it falls in it drags the female down with it by the line. And as the male Wrasses swim in with her, they are captured and pay the penalty for their erotic impulse.

1.3 The Mullet is one of those fishes that live in pools and is believed to control its appetite and to lead a most temperate existence. For it never sets upon a living creature, but is naturally inclined to peaceful relations with all fish. If it comes across any dead fish, it makes its meal off that, but will not lay hold upon it until it has moved it with its tail: if the fish does not stir, it becomes the Mullet's prey; but if it moves, the Mullet withdraws.

1.4 As loyal men and true fellow-soldiers come to one another's aid, so do the fish which men skilled in sea-fishing call Anthias; and their haunts are the sea. For instance, directly they are aware that a mate has been hooked, they swim up with all possible speed; then they set their back against him and by falling upon him and pushing with all their might try to stop him from being hauled in.

Parrot Wrasses too are doughty champions of their own kin. At any rate they rush forward and make haste to bite through the line in order to rescue the one that has been caught. And many a time have they cut the line and set him free, and they ask for no reward for life-saving. Many a time however they have not contrived to do this, but have failed in spite of having done all they could with the utmost zeal. And it has even happened, they say, that, when a Parrot Wrasse has fallen into the weel and has left his tail-part projecting, the others that are swimming around uncaught have fixed their teeth in him and have dragged their comrade out. If however his head was projecting, one of those outside offered his tail, which the captive grasped and followed. This, my fellow-men, is what these creatures do: their love is not taught, it is inborn.

1.5 Of the fish known as the 'Gnawer' its name and, what is more, its mouth declare its nature. Its teeth grow in an unbroken line and are numerous and so strong as to bite through anything that comes their way. Therefore, when taken with a hook, it is the only fish that does not attempt to withdraw, but presses on in its eagerness to cut the line. Fishermen however counter this by a device: they have their hooks forged with a long shank. But the Gnawer, being a powerful jumper in its way, often leaps above the shank, and cutting the hair-line that is drawing it, swims away again to the places where fish haunt. It also gathers round it a shoal of its fellows and with them also makes an attack upon the Dolphins, and if one chance to get separated from the rest, the Gnawers surround it and then set upon the creature furiously, knowing as they do that the Dolphin is by no means insensible to their bites. For the Gnawers cling most tenaciously to it, while the Dolphin leaps upwards and plunges; and it shows how it is being tormented by the pain, for the Gnawers that have

fastened upon it are lifted out of the water with it as it leaps. And while the Dolphin struggles to shake them loose and beat them off, they never relax their hold, but would eat it alive. Then however when each Gnawer has bitten away a piece, they go off with their mouthful, and the Dolphin is thankful to swim away after having fed its uninvited guests (if one may so call them) to its own pain.

1.6 I am told that a dog fell in love with Glauce the harpist. Some however assert that it was not a dog but a ram, while others say it was a goose. And at Soli in Cilicia a dog loved a boy of the name of Xenophon; at Sparta another boy in the prime of life by reason of his beauty caused a jackdaw to fall sick of love.

1.7 Men say that the Jackal is most friendly disposed to man, and whenever it happens to encounter a man, it gets out of his way as though from deference; but when it sees a man being injured by some other animal, it at once comes to his help.

1.8 One Nicias unwittingly outdistanced his fellow huntsmen and fell into a charcoal-burners' furnace. But his hounds, which saw this happen, did not leave the spot, but at first remained whining and baying about the furnace, until at length, by just daring to bite the clothes of passers-by gently and cautiously, they tried to draw them to the scene of the mishap, as though the hounds were imploring the men to come to their master's help. One man at any rate seeing this, suspected what had occurred and followed. He found Nicias burned to death in the furnace, and from the remains he guessed the truth.

1.9 The Drone, which is born among bees, hides itself among the combs during the day, but at night, when it observes that the bees are asleep, it invades their work and makes havoc in the hives. When the bees realise this (most of them are asleep, being thoroughly tired, though a few are lying in wait for the thief), directly they catch him they beat him, not violently, and thrust him out and cast him forth into exile. Yet even so the Drone has not learnt his lesson, for he is naturally slothful and greedy — two bad qualities! So he secretes himself outside the combs and later, when the bees fly forth to their feeding-grounds, pushes his way in and does what is natural to him, cramming himself and plundering the bees' treasure of honey. But they on returning from their pasturage, directly they encounter him, no longer beat him with moderation nor merely put him to flight, but fall upon him vigorously and make an end of the thief. The punishment which he suffers none can censure: he pays for his gluttony and voracity with his life. This is what bee-keepers say, and they convince me.

1.10 Even among Bees there are some which are lazy, though they do not resemble drones in their habits, for they neither damage the combs nor have designs upon the honey, but feed themselves on the flowers, flying abroad and accompanying the others. But though they have no skill in the making and the gathering of honey, at any rate they are not completely inactive, for some fetch water for their king and for their elders, while the elders themselves attend upon the king and have been set apart to form his bodyguard. Meanwhile others of them have this for their task: they carry the dead bees out of the hive. For it is essential that their honeycombs should be clean, and they will not tolerate a dead bee in the hive. Others again keep watch by night, and their duty is to guard the fabric of honeycombs as though it were some tiny city.

1.11 A man may tell the age of Bees in the following way. Those born in the current year are glistening and are the colour of olive oil; the older ones are rough to the eye and to the touch and appear wrinkled with age. They have however greater experience and skill, time having instructed them in the art of making honey. They have too the faculty of divination, so that they know in advance when rain and frost are coming. And whenever they reckon that either or both are on their

way, they do not extend their flight very far, but fly round about their hives as though they would be close to the door. It is from these signs that bee-keepers augur the approach of stormy weather and warn the farmers. And yet Bees are not so afraid of frost as they are of heavy rain and snow. Often they fly against the wind, carrying between their feet a small pebble of such size as is easy to carry when on the wing. This is a device which they use to ballast themselves against a contrary wind, and particularly so that the breeze may not deflect them from their path.

1.12 Even among fishes there are many kinds which know how strong is love, for that god, powerful as he is, has not ignored and disdained even the creatures that dwell below in the depths of the ocean. One at any rate that pays service to this god is the Mullet, but not every species, only that to which men who have observed the different species of fish have given a name derived from its sharp snout. These, I am told, are caught in great numbers round about the Gulf of Achaia, and there are various ways of catching them. But the following method of capture proves how madly amorous they are. A fisherman catches a female Mullet and fastens it to a long rod or a cord (this too must be long); as he walks slowly along the sea-shore he draws the fish, swimming and gasping, after him. In his footsteps there follows one with a net, and this net-fisherman watches diligently to see what is going to happen and where. So the female Mullet is towed along, and all the males that catch sight of her, like (one might say) licentious youths ogling a beautiful girl as she hurries by, come swimming up, mad with sexual desire. Thereupon the man with the net casts it and frequently has good luck, thanks to the urgent lust of the fish that approach. It is essential for the first fisherman's purpose that the captured female should be at her prime and well-fleshed, so that a greater number may be ardent after her and may take the bait which her enticing beauty offers. But should she be lean, most of them will scorn her and go away. Still, if any one of them is madly in love, he will not leave her, because he has been enslaved not by her beauty (that I will swear) but by his desire for sexual intercourse.

1.13 It seems however that fish are also models of continence. At any rate when the Etna-fish as it is called, pairs with its mate as with a wife and achieves the married state, it does not touch another female; it needs no covenants to maintain its fidelity, no dowry; it even stands in no fear of an action for ill-usage, nor is Solon to it a name of dread. What noble laws, how worthy of veneration! — And man, the libertine, feels no scruple at disobeying them.

1.14 The Wrasse has its haunts and resorts among the rocks and near cavernous burrows. The males all have many wives and resign the hollow places, as though they were women's chambers, to their brides. This refinement in their mating, and the propensity which they enjoy for having many wives one might describe as characteristic of barbarians who luxuriate in the pleasures of the bed, and (if one may jest on serious subjects) as living like the Medes and Persians. It is of all fishes the most jealous at all times, but especially when its wives are producing their young. (If by excessive use of these expressions I make my discourse too wanton, the facts of nature permit me to do things of that sort.) So the females which are actually facing the strain of birth-pangs remain quiet in their homes, while the male, after the manner of a husband, stays about the entrance to prevent any mischief from outside, being anxious for his offspring. For it seems that he loves even those that are yet unborn, and it is his fatherly concern that causes him these early fears; he even spends the whole day without touching food: his care sustains him. But as the afternoon grows late, he relinquishes his forced watch and seeks for food, which he does not fail to find. But of course each of the females within, whether in the act of giving birth or after it, finds a quantity of seaweed in the hollow places and about the rocks, and this is their meal.

1.15 A fisherman who is skilled in angling a Wrasse fastens a heavy piece of lead to his hook, wraps round it a large prawn, and drops the bait. And then he moves the line a little, rousing and egging on his prey to take the food, while the prawn by its movement conveys the impression that it intends to enter the Wrasse's den. Now this the Wrasse greatly resents, and therefore, as soon as he observes it, he longs, such is his fury, to demolish the object of his abhorrence, for he is not thinking of his appetite at the moment; and when he has crushed it, he moves off, considering it more honourable and more important that the watchman should not be caught napping than that he should be fed. But when he intends to eat any other creature that comes his way, he crushes it lightly and then lets it lie. As soon as he sees that it is dead, then at length he nibbles at it. But the female Wrasses, so long as they see the male acting as their shield, so to say, 'remain within and with the care of their household' are occupied. If however the male disappears, they become distraught; their despondency leads them to venture forth, and then they are caught. What have the poets to say to this — our poets who are for ever extolling Evadne, the daughter of Iphis, and Alcestis, the daughter of Pelias?

1.16 Among fishes the 'Blue-grey' is a model father. He maintains a strenuous watch over his mate's offspring, to ensure that they are not attacked or injured. And all the while that they are swimming the sea happily and without fear he never relaxes his vigilance, and sometimes brings up the rear and sometimes does not, but swims by them now on this side now on that. And if any of his young is afraid, he opens his mouth and takes the baby in. Later, when its fear has passed, he disgorges the one that took refuge exactly as he received it, and it resumes its swimming.

1.17 Directly the Dog-fish has produced its young, it has them swimming by its side, and there is no delay. But if any one of them is afraid, it slips back into its mother's womb. Later, when its fear has passed, it emerges, as though it were being born again.

1.18 Men admire women for their devotion to their children, yet I observe that mothers whose sons or whose daughters have died, continued to live and in time forgot their sufferings, their grief having abated. But the female Dolphin far surpasses all creatures in its devotion to its offspring. It produces two. . . . And when a fisherman either wounds a young Dolphin with his harpoon or strikes it with his barb . . . The barb is pierced at the upper end, and a long line is fastened to it, while the barbs sink in and hold the fish. So long as the wounded Dolphin still has any strength, the fisherman leaves the line slack, so that the fish may not break it by its violence, and so that he himself may not incur a double misfortune through the Dolphin escaping with the barb and himself failing to catch anything. As soon as he perceives that the fish is tiring and is somewhat weakened by the wound, he gently brings his boat near and lands his catch. But the mother Dolphin is not scared by what has occurred nor restrained by fear, but by a mysterious instinct follows in her yearning for her child. And though one confront her with terrors never so great, she is still undismayed, and will not endure to desert her young one which has come to a bloody end; indeed, it is even possible to strike her with the hand, so close does she come to the hunters, as though she would beat them off. And so it comes about that she is caught along with her offspring, though she could save herself and escape. But if both her offspring are by her, and if she realises that one has been wounded and is being hauled in, as I said above, she pursues the one that is unscathed and drives it away, lashing her tail and biting her little one with her mouth; and she makes a blowing sound as best she can, indistinct, but giving the signal to flee, which saves it. So the young Dolphin escapes, while the mother remains until she is caught and dies along with the captive.

1.19 The Horned Ray is born in the mud, and though at the time of birth it is very small, it grows from that size to be enormous. Its belly beneath is white; its back, its head, and its sides are a deep

black; its mouth however is small, and its teeth — when it opens its mouth, you cannot see them. Further, it is exceedingly long and flat. While on the one hand it feeds upon a great number of fish, yet its chief delight is to eat the flesh of man. It is conscious of its very small strength: only its great size gives it courage. Hence when it sees a man swimming or diving to catch something in the water, it rises and arching its body attacks him, pressing upon him from above with all its weight; and while causing terror to fasten upon him, the Ray extends all its body over the wretched man like a roof and prevents him from reaching the surface and breathing. When therefore his breathing is arrested, the man naturally dies, and the Ray falls upon him and in the feast which it most greedily desires reaps the reward of its persistence.

1.20 All other songsters sing sweetly and use their tongue to utter, as men do, but Cicadas produce their incessant chatter from their loins. They feed upon dew, and from dawn until about midday remain silent. But when the sun enters upon his hottest period, they emit their characteristic clamour — industrious members of a chorus, you might call them — and from above the heads of shepherds and wayfarers and reapers their song descends. This love of singing Nature has bestowed upon the males, whereas the female Cicada is mute and appears as silent as some shamefast maiden.

1.21 Men say that it was the goddess Ergane who invented weaving and spinning, but it was Nature that trained the Spider to weave. The practice of its craft is not due to any imitation, nor does it obtain spinning matter from any external source, but produces the threads from its own belly and then contrives snares for flimsy winged creatures, spreading them like nets; and it derives its nourishment from the same material that it extracts from its belly and weaves. It is so extremely industrious that not even the most dexterous women, skilled at elaborating wrought yarn, can be compared to it: its web is thinner than hair.

1.22 Historians praise the Babylonians and Chaldaeans for their knowledge of the heavenly bodies. But Ants, though they neither look upwards to the sky nor are able to count the days of the month on their fingers, nevertheless have been endowed by Nature with an extraordinary gift. Thus, on the first day of the month they stay at home indoors, never quitting their nest but remaining quietly within.

1.23 The fish known as the Sargue has its home among rocks and hollows, which however have in them narrow clefts so that the rays of the sun can penetrate within and fill these fissures with light. For Sargues like all the light there is, but have an even greater craving for the sunbeams. They live in great numbers in the same place, and their usual haunts are the shallows of the sea, and they particularly like to be near the land. For some reason they have a strong affection for goats. At any rate if the shadow of one or two goats feeding by the sea-shore fall upon the water, they swim in eagerly and spring up as though for joy, and in their desire to touch the goats they leap out of the water, though they are not in a general way given to leaping. And even when swimming below the waves they are sensible of the goats' smell, and for delight in it press in to be near them. Now since they are thus love-sick, the object of their love is the means of their capture. Thus, a fisherman wraps himself in a goatskin which has been flayed with the horns. Stalking his prey, the hunter gets the sun behind him and then sprinkles on the water beneath which the aforesaid fish live, barley-groats soaked in broth of goats' flesh. And the Sargues, attracted by the aforesaid smell as though by some charm, approach and eat the barley-groats and are fascinated by the goatskin. And the man catches them in numbers with a stout hook and a line of white flax attached not to a reed but to a rod of cornel-wood. For it is essential to haul in the fish that has taken the bait very quickly so as to avoid disturbing the others. They are even to be caught by hand, if by gently stroking the spines,

which they raise in self-protection, from the head downwards one can lay them, or by pressure draw the fish out of the rocks into which they thrust themselves to avoid being seen.

1.24 The male Viper couples with the female by wrapping himself round her. And she allows her mate to do this without resenting it at all. When however they have finished their act of love, the bride in reward for his embraces repays her husband with a treacherous show of affection, for she fastens on his neck and bites it off, head and all. So he dies, while she conceives and becomes pregnant. But she produces not eggs but live young ones, which immediately act in accordance with their nature at its worst. At any rate they gnaw through their mother's belly and forthwith emerge and avenge their father. What then, my dramatist friends, have your Oresteses and your Alcmaeons to say to this?

1.25 Should you this year set eyes on a male Hyena, next year you will see the same creature as a female; conversely, if you see a female now, next time you will see a male. They share the attributes of both sexes and are both husband and wife, changing their sex year by year. So then it is not through extravagant tales but by actual facts that this animal has made Caeneus and Teiresias old-fashioned.

1.26 As men fight for beautiful women, so do animals fight for their females, goats with goats, bulls with bulls, and rams with their rivals in love for sheep. Even the Black Sea-bream wax wanton for their females. They are born in what men call rough places, and are jealous, and one may see them fighting vigorously for their females. And they do not contend for several, in the way that Sargues do, but each for its own mate, just as Menelaus fought for his wife with Paris.

1.27 The Octopus feeds first on one thing and then on another, for it is terribly greedy and for ever plotting some evil, the reason being that it is the most omnivorous of all sea-animals. The proof of this is that, should it fail to catch anything, it eats its own tentacles, and by filling its stomach so, finds a remedy for the lack of prey. Later it renews its missing limb, Nature seeming to provide this as a ready meal in times of famine.

1.28 A horse's carcase is the breeding-place of Wasps. For as the carcase rots, these creatures fly out of the marrow: the swiftest of animals begets winged offspring: the horse, Wasps.

1.29 The Owl is a wily creature and resembles a witch. And when captured, it begins by capturing its hunters. And so they carry it about like a pet or (I declare) like a charm on their shoulders. By night it keeps watch for them and with its call that sounds like some incantation it diffuses a subtle, soothing enchantment, thereby attracting birds to settle near it. And even in the daytime it dangles before the birds another kind of lure to make fools of them, putting on a different expression at different times; and all the birds are spell-bound and remain stupefied and seized with terror, and a mighty terror too, at these transformations.

1.30 The Basse is a victim of the Prawn and is inclined to be (if I may be allowed the jest) the greatest gourmet among fish. So being lake-dwellers they lie in wait for the lake Prawns. These are of three kinds: the first are such as I have already mentioned; the second subsist on seaweed, while the third kind live on the rocks. Being incapable of self-defence against the Basse, they prefer to die along with it. And I shall not hesitate to use the word 'stratagem' of them. For instance, directly they realise that they are being caught, these precious creatures adroitly turn outwards the projecting portion of their head, which resembles the beak of a trireme and is exceedingly sharp and has moreover notches in it like a saw, and spring and leap lightly and nimbly about. But the Basse opens



its mouth wide, and the flesh of its throat is tender. So the Basse seizes the exhausted Prawn and fancies that, it is going to make a meal of it. The Prawn however in this ample space gambols about and dances in triumph, so to say, over the Basse's throat. Then it plants its spikes in its unfortunate pursuer, whose inward parts are thereby lacerated, so that they swell up and discharge much blood and choke the Basse, until in most novel fashion the slayer is himself slain.

1.31 Strength of claws and sharpness of fangs make bears, wolves, leopards, and lions bold, whereas the Porcupine, which (I am told) has not these advantages, none the less has not been left by Nature destitute of weapons wherewith to defend itself. For instance, against those who would attack it with intent to harm it discharges the hairs on its body, like javelins, and raising the bristles on its back, frequently makes a good shot. And these hairs leap forth as though sped from a bowstring.

1.32 Enmity and inborn hate are a truly terrible affliction and a cruel disease when once they have sunk deep into the heart even of brute beasts, and nothing can purge them away. For instance, the Moray loathes the Octopus, and the Octopus is the enemy of the Crayfish, and to the Moray the Crayfish is most hostile. The Moray with its sharp teeth cuts through the tentacles of the Octopus, and then boring into its stomach does the same thing — and very properly, for the Moray swims, while the Octopus is like some creeping thing. And even though it changes its colour to that of the rocks, even this artifice seems to avail it nothing, for the Moray is quick to perceive the creature's stratagem. As to the Crayfish, the Octopuses strangle them with their grip, and when they have succeeded in killing them, they suck out their flesh. But against the Moray the Crayfish raises its horns and with fury in them challenges it. Thereupon the Moray imprudently tries to bite the prickles which its adversary has thrust forward in self-defence. But the Crayfish reaches out its claws like two hands, and clinging firmly to the Moray's throat on either side, never relaxes its hold, while the Moray in its distress writhes and transfixes itself on the points of the Crayfish's shell; and as these are planted in it, it grows numb and gives up the struggle, finally sinking in exhaustion. And the Crayfish makes a meal off its adversary.

1.33 The fish known as the Moray lives in the sea, and when the net encircles it, it swims hither and thither, seeking with great cleverness some weak mesh or some rent in the net. And when it has found such a place, it slips through and swims free once again. And if one of them has this good fortune, all the others of its kind that have been caught along with it escape in the same way, as though taking their direction from a leader.

1.34 Whenever fishermen who are skilled in these matters plan to catch a Cuttlefish, the fish on realising this emits the ink from its body, pours it over itself and envelops itself so as to be entirely invisible. The fisherman's sight is deceived: though the fish is within view, he does not see it. It was by veiling Aeneas in such a cloud that Poseidon tricked Achilles, according to Homer.

1.35 Even brute beasts protect themselves against the eyes of sorcerers and wizards by some inexplicable and marvellous gift of Nature. For instance, I am told that as a charm against sorcery ring-doves nibble off the fine shoots of the bay-tree, and then insert them in their nests as a protection for their young. Kites take buck-thorn, falcons picris, while turtle-doves take the fruit of the iris, ravens the agnus-castus tree, but hoopoes maidenhair fern, which some call 'lovely hair'; the crow takes vervain, the shearwater ivy, the heron a crab, the partridge the hairy head of a reed, thrushes a sprig of myrtle. The lark protects itself with dog's-tooth grass; eagles take the stone which is called after them aetite (eagle-stone). This stone is also said to be good for women in pregnancy, as a preventive of abortions.

1.36 The fish known as Torpedo produces the effect implied in its name on whatever it touches and makes it 'torpid' or numb. And the Sucking-fish clings to ships, and from its action we give it its name, *Ship-holder*. While the Halcyon is sitting, the sea is still and the winds are at peace and amity. It lays its eggs about mid-winter; nevertheless, the sky is calm and brings fine weather, and it is at this season of the year that we enjoy 'halcyon days.' If a horse chance to tread on the footprint of a Wolf, it is at once seized with numbness. If you throw the vertebra of a Wolf beneath a four-horse team in motion, it will come to a stand as though frozen, owing to the horses having trodden upon the vertebra. If a Lion put his paw upon the leaves of an ilex, he goes numb. (And the same thing happens to) a Wolf, should he even come near the leaves of a squill. And that is why foxes throw these leaves into the dens of Wolves, and with good reason, because their hostility is due to the Wolves' designs upon them.

1.37 Storks have a very clever device for warding off the bats that would damage their eggs: one touch from the bats turns them to wind-eggs and makes them infertile. Accordingly, this is the remedy they use to prevent this happening. They lay the leaves of a plane-tree upon their nests, and directly the bats come near the storks, they are benumbed and become incapable of doing harm. On swallows too Nature has bestowed a like gift: cockroaches injure their eggs. Therefore the mother-birds protect their chicks with celery leaves, and hence the cockroaches cannot reach them. If one throws some rue upon an octopus it remains immobile — so the story goes. If you touch a snake with a reed, it will after the first stroke remain still, and in the grip of numbness will lie quiet; if however you repeat the stroke a second or a third time, you at once revive its strength. The moray too, if struck once with a fennel wand, lies still the first time; but if struck several times, its anger is kindled. Fisherfolk assert that even octopuses come ashore if a sprig of olive is laid upon the beach.

It seems that the fat of an elephant is a remedy against the poisons of all savage creatures, and if a man rub some on his body, even though he encounter unarmed the very fiercest, he will escape unscathed.

1.38 (i). The Elephant has a terror of a horned ram and of the squealing of a pig. It was by these means, they say, that the Romans turned to flight the elephants of Pyrrhus of Epirus, and that the Romans won a glorious victory. This same animal is overcome by beauty in a woman and lays aside its temper, quite stunned by the lovely sight. And at Alexandria in Egypt, they say, an Elephant was the rival of Aristophanes of Byzantium for the love of a woman who was engaged in making garlands. The Elephant also loves every kind of fragrance and is fascinated by the scent of perfumes and of flowers.

(ii) If some thief or robber wants to silence dogs that are too fierce and to make them run away, he takes a brand from a funeral pyre (they say) and goes for them. The dogs are terrified. I have heard too this story: if a man shears a sheep that has been mauled by a wolf, and after working the wool makes himself a tunic, this will irritate him when he puts it on. 'He is weaving a gnawing itch for himself,' as the proverb has it.

(iii) If a man wants to bring about a quarrel and contention at a dinner-party, he will by dropping into the wine a stone that a dog has bitten, vex his fellow-guests to the point of frenzy.

(iv) If a man sprinkle some perfume upon beetles, which are ill-smelling creatures, they cannot endure the sweet scent, but die. In the same way it is said that tanners, who live all their life in foul air, detest perfumes. And the Egyptians maintain that all snakes dread the feathers of the ibis.

1.39 Those who have a thorough understanding of the matter hunt Sting-rays, and it is chiefly in this way that their efforts are successful. They take their stand and dance and sing very sweetly. And the Sting-rays are soothed by the sound and are charmed by the dancing and draw nearer, while the men withdraw gently step by step to the spot where of course the snare is set for the wretched creatures, namely nets spread out. Then the Sting-rays fall into them and are caught, betrayed in the first instance by the dancing and singing.

1.40 The Great Tunny, as it is called, is a monstrous fish and knows well what is best for it. This gift it has acquired by nature and not by art. For instance, when the hook has pierced it, it dives to the bottom and thrusts and dashes itself against the ground, striking its mouth in its effort to eject the hook. If that fails, it widens the wound and disgorges the instrument of pain and dashes away. Frequently however it fails in the attempt, and the fisherman draws up the reluctant creature and secures his catch.

1.41 The *Melanurus* is the most timid of fishes, and to its timidity fishermen bear witness, for it is not caught in weels nor does it go near them; but if by chance a dragnet encircles it, then it is caught without knowing it. And whenever the sea is fairly calm and smooth, these fish lie quiet down below upon the rocks or among the seaweed and cover themselves as best they can, trying to conceal their bodies. But if the weather is stormy, observing other fish diving to the depths out of the buffeting waves, they take courage and approach the shore, swim close to the rocks, and fancy that the foam floating overhead is sufficient protection while it conceals and overshadows them. And they know in some quite inexplicable way that for fishermen the sea is unnavigable on such a day or such a night, as it rages with the waves mounting to a terrifying height. It is in stormy weather that they gather their food, when the swell drags some off the rocks and sucks some from the shore. The *Melanuruses* feed off the foulest matter, such stuff as no other fish would readily take, unless it were utterly overcome by hunger. But in calm weather they have only the sand to ride on, and from there they get their food. But how they are captured another shall tell.

1.42 Among birds the Eagle has the keenest sight. And Homer is aware of this and testifies to the fact in the story of Patroclus when he compares Menelaus to the bird, at the time when he was searching for Antilochus, that he might despatch him to Achilles as a messenger, unwelcome indeed but necessary, to announce the fate that had befallen his comrade, whom Achilles had sent out (to battle) but never welcomed home again for all his yearning. And the Eagle is said to serve not himself alone but to be good for men's eyes as well. At any rate, if a man whose sight is dim mix an Eagle's gall with Attic honey and rub it (on his eyes), he will see and will acquire sight of extreme keenness.

1.43 Among birds the Nightingale has the clearest and most musical voice, and fills solitary places with its most lovely and thrilling note. Further, they say that its flesh is good for keeping one awake. But people who feast upon such food are evil and dreadfully foolish. And it is an evil attribute of food that it drives sleep away — sleep, the king of gods and men, as Homer says.

1.44 The screaming of Cranes brings on showers, so they say, while their brain possesses some kind of spell that leads women to grant sexual favours — if those who first observed the fact are sufficient guarantee.

1.45 If a man burn the feathers of a Vulture (so I am told), he will have no difficulty in inducing snakes to quit their dens and lurking-places. The bird 'Woodpecker' derives its name from what it does. For it has a curved beak with which it pecks oak-trees, and deposits its young in them as in a

nest; and it has no need at all of dry twigs woven together or of any building. Now if one inserts a stone and blocks up the entrance for the aforesaid bird, it guesses that there is a plot afoot, fetches some herb that is obnoxious to the stone, and places it against the stone. The latter in disgust and unable to endure (the smell) springs out, and once again the bird's caverned home lies open to it.

1.46 The Four-toothed Sparus is not solitary nor does it endure loneliness and separation from its kind. These fish love to congregate together according to their age: the younger ones swim about in shoals, the maturer ones also keep together. And as the saying is true 'A friend must be of one's own age,' so these creatures delight to be where others of their kind are, like comrades and friends sharing the same pursuits and resorts. And these are the means they devise for evading their pursuers. Whenever an angler drops a bait for them they all gather round and forming a ring look at one another as though each were signalling to each not to approach and not to touch the bait that has been lowered. And those that have been posted for this purpose remain still. But a Sparus from some other, strange shoal arrives and swallows the bait, and gets the reward of its solitariness by being caught. So while he is being drawn up, the rest grow bolder as though they were not going to be taken, and so through their scorn (of danger) are caught.

1.47 All through the summer the Raven is afflicted with a parching thirst, and with his croaking (so they say) declares his punishment. And the reason they give is this. Being a servant he was sent out by Apollo to draw water. He came to a field of corn, tall but still green, and waited till it should ripen, as he wanted to nibble the wheat: to his master's orders he paid no heed. On that account in the driest season of the year he is punished with thirst. This looks like a fable, but let me repeat it out of reverence for the god.

1.48 The Raven, they say, is a sacred bird and attends upon Apollo: that is why men agree that it is also of use in divination, and those who understand the positions of birds, their cries, and their flight whether on the left or on the right hand, are able to divine by its croaking. I am also informed that Raven's eggs turn the hair black. And it is essential for anyone who is dyeing his hair to keep olive oil in his mouth and his lips closed. Otherwise his teeth also turn black along with his hair, and they are hardly to be washed white again.

1.49 The Bee-eater flies (so they say) in precisely the opposite way to all other birds, for they move forward in the direction in which they look, while the Bee-eater flies backwards. And I am astonished at the remarkable, incredible, and uncommon character of the motion with which this creature wings its way.

1.50 Whenever the Moray is filled with amorous impulses it comes out of the sea on to land seeking eagerly for a mate, and a very evil mate. For it goes to a Viper's den and the pair embrace. And they do say that the male Viper also in its frenzied desire for copulation goes down to the sea, and just as a reveller with his flute knocks at the door, so the Viper also with his hissing summons his loved one, and she emerges. Thus does Nature bring those that dwell far apart together in a mutual desire and to a common bed.

1.51 The spine of a dead man, they say, transforms the putrefying marrow into a snake. The brute emerges, and from the gentlest of beings crawls forth the fiercest. Now the remains of those that were fine and noble are at rest and their reward is peace, even as the soul also of such men has the rewards which wise men celebrate in their songs. But it is from the spine of evildoers that such evil monsters are begotten even after life. The fact is, the whole story is either a fable, or if it is to be

relied upon as true, then the corpse of a wicked man receives (so I think) the reward of his ways in becoming the progenitor of a snake.

1.52 A Swallow is a sign that the best season of the year is at hand. And it is friendly to man and takes pleasure in sharing the same roof with this being. It comes uninvited, and when it pleases and sees fit, it departs. Men welcome it in accordance with the law of hospitality laid down by Homer, who bids us cherish a guest while he is with us and speed him on his way when he wishes to leave.

1.53 The Goat has a certain advantage (over other animals) in the manner of taking breath, as the narratives of shepherds tell us, for it inhales through its ears as well as through its nostrils, and has a sharper perception than any other cloven-hoofed animal. The cause of this I am unable to tell; I have only told what I know. But if the Goat also was a creation of Prometheus, what the intention of this contrivance was, I leave him to determine.

1.54 They say that the bite of the Viper and of other snakes is not without countering remedies. Some, I am told, are to be drunk, others are to be applied; spells too can mitigate poison injected by a sting. But the bite of the Asp alone, I am told, cannot be cured and is beyond help. This creature truly deserves to be hated for being blessed with the power to injure. Yet a monster more abominable and harder to avoid even than the Asp is a sorceress, such as (we are told) Medea and Circe were, for the poison from Asps is the result of a bite, whereas sorceresses kill by a mere touch, so they say.

1.55 There are three kinds of Sea-hound. The first is of enormous size and may be reckoned among the most daring of sea monsters. The others are of two kinds, they live in the mud and reach to a cubit in length. Those that are speckled one may call *galeus* (small shark), and the rest, if you call them Spiny Dog-fish you will not go far wrong. Now the speckled ones have a softer skin and a flatter head, while the others, whose skin is hard and whose head tapers to a point, are distinguished from the rest by the whiteness of their skin. Moreover nature has provided them with spines, one on their crest, so to say, the other in the tail. And these spines are hard and resisting and emit a kind of poison. Of the small Dog-fish both kinds are caught in the ooze and mud, and the manner of catching them I may as well explain. By way of bait men let down a white fish out of which they have cut the backbone. Directly one of the Dog-fish is caught and hooked, all those that have seen him make a rush for him and follow him as he is drawn upwards, never stopping until they reach the boat. One might imagine that they do this out of envy, as though he had filched some piece of food from somewhere and all for himself. And it often happens that some of them actually leap into the boat and are caught of their own free will.

1.56 The barb of the Sting-ray nothing can withstand. It wounds and kills instantly, and even those fishermen who have great knowledge of the sea dread its weapon. For no man can heal the wound, nor will the creature that inflicted it; that was a gift vouchsafed, most probably, to the ashen spear from mount Pelion alone.

1.57 The Cerastes is a small creature; it is a snake, and above its brow it has two horns, and these horns are like those of the snail, though unlike the snail's they are not soft. Now these snakes are the enemies of all other Libyans, but towards the Psylli, as they are called, they are gently disposed, for the Psylli are insensible to their bites and have no difficulty in curing those who have fallen victims to this venomous creature. Their method is this: if one of that tribe arrive, whether summoned or by chance, before the whole body is inflamed, and if he then rinse his mouth with water and wash the bitten man's hands and give him the water from both to drink, then the victim recovers and thereafter is free from all infection. And there is a story current among the Libyans that, if one of the Psylli

suspects his wife and hates her on the ground that she has committed adultery; and if moreover he suspects that the child born from her is a bastard and no true member of his tribe, he then puts it to a very severe test: he fills a chest with Cerastae and drops the baby among them, just as a goldsmith places gold in the fire, and puts the infant to the proof by thus exposing him. And immediately the snakes surge up in anger and threaten the child with their native poison. But directly the infant touches them, they wilt, and then the Libyan knows that he is the father of no bastard but of one sprung of his own race. This tribe is said also to be the enemy of other noxious beasts and of malmignattes. Well, if the Libyans are here romancing, I would have them know that it is not I but themselves that they are deceiving.

1.58 The following creatures plot and make war against Bees: the creatures known as Titmice and their young, also Wasps and Swallows and Snakes and Spiders and [Moths?]. Bees are afraid of these, and so bee-keepers try to drive them away by using flea-bane as a fumigant or by placing or scattering poppies still green before the hives. Most of the aforesaid creatures dislike these things, but the way to catch Wasps is as follows. You should hang up a cage in front of the Wasps' nest and insert a little smelt or a small sprat and with them a minnow or a sardine. And the Wasps, drawn by their natural greed and lured by the bait, fall into the cage in numbers, and once they are trapped, it is no longer possible for them to fly out again. Lizards also have designs upon Bees, so too have Land-crocodiles. But a means has been devised of destroying them too, thus: soak some meal in hellebore, or pour upon it the sap of spurge or the juice of mallow and scatter it about in front of the hives. This is death to the aforesaid creatures, once they have tasted of it. If a bee-keeper drop the leaves of mullein or nuts into a pool, he will find it the simplest way of destroying Tadpoles. But Moths are destroyed at nighttime by the placing of a strong light in front of the hives and vessels full of oil below the light. And the Moths fly to the brightness and fall into the oil and are killed. Otherwise they would not be caught so very easily. But the Titmice, once they have tasted the wine-steeped meal, become drowsy; then they fall over and lie quivering and can readily(?) be captured as they struggle to fly and are quite incapable of standing. But the Swallow men refrain from killing out of respect for its music, though they might easily do so. They are content to hinder the Swallow from attaching its nest below the hives. Again, Bees dislike all bad smells and perfume equally: they cannot endure foul odours nor do they welcome a luxurious fragrance, even as modest, refined girls abhor the former while despising the latter.

1.59 The elder Cyrus, they say, was filled with pride at the palace in Persepolis which he himself had caused to be built; Darius likewise at the magnificence of his buildings at Susa, for he it was who contrived those far-famed dwelling-places. Cyrus the Second with his own royal hands and clothed in his habitual delicate garments and adorned with his beautiful jewels of great price, planted his Gardens in Lydia and prided himself on the fact before all the Greeks and even before Lysander the Spartan, when Lysander came to visit him in Lydia.

Historians celebrate these constructions, but the dwellings of Bees which are far cleverer and exhibit greater skill, of these they take not the slightest notice. And yet, while those monarchs wrought what they wrought through the affliction of multitudes, there never was any creature more gracious than the Bee, just as there is none cleverer. The first things that they construct are the chambers of their kings, and they are spacious and above all the rest. Round them they put a barrier, as it were a wall or fence, thereby also enhancing the importance of the royal dwelling. And they divide themselves into three grades, and their dwellings accordingly into the same number. Thus, the eldest dwell nearest the royal palace, and the latest born dwell next to them, while those that are young and in the

prime of life are outside the latter. In this way the eldest are the king's bodyguard, and the youthful ones are a protection to the latest born.

1.60 According to one story the King Bees are stingless; according to another they are born with stings of great strength and trenchant sharpness; and yet they never use them against a man nor against bees: the stings are a pretence, an empty scare, for it would be wrong for one who rules and directs such numbers to do an injury. And those who understand their ways bear witness to the fact that the other Bees when in presence of their rulers withdraw their stings, as though shrinking and giving way before authority. And one might well be astonished at either of the aforesaid characteristics in these King Bees: if they have no means of injuring, this is remarkable; if with all the means of injuring they do no injury, then this is far more to their credit.

## Book 2

2.1 When Cranes are about to leave their Thracian haunts and the frosts of Thrace, they collect on the river Hebrus, and when each one has swallowed a stone by way of food and as ballast against the onslaught of winds, they prepare to emigrate and to set out for the Nile, longing for the warmth and for the food that is to be had there during the winter. And just when they are on the point of rising and moving off, the oldest Crane goes round the entire flock thrice and then falls to the ground and breathes his last. So the others bury the dead body on the spot and fly straight to Egypt, traversing the widest seas on outstretched wing, never landing, never pausing to rest. And they fall in with the Egyptians as they are sowing their fields, and in the ploughlands they find, so to speak, a generous table, and though uninvited partake of the Egyptians' hospitality.

2.2 That living creatures should be born upon the Fire-mountains, in the air, and in the sea, is no great marvel, since matter, food, and nature are the cause. But that there should spring from fire winged creatures which men call 'Fire-flies,' and that these should live and flourish in it, flying to and fro about it, is a startling fact. And what is more extraordinary, when these creatures stray outside the range of the heat to which they are accustomed and take in cold air, they at once perish. And why they should be born in the fire and die in the air others must explain.

2.3 With other birds the hen is mounted by the cock, so they say; not so Swallows: their manner of coupling is the reverse. Nature alone knows the reason for this. But the common explanation is that the hens are afraid of Tereus, and fear lest one day he steal secretly upon them and enact a fresh tragedy. Now in my opinion the most valuable gift that Nature has bestowed upon the Swallow is this, that if it chance to be blinded with a brooch-pin, it regains its sight. Why then do we continue to sing the praises of Teiresias, even though he was the wisest of men not only on earth but also in Hades, as Homer tells us?

2.4 There are creatures called *Ephemera* (living only for a day) that take their name from their span of life, for they are generated in wine, and when the vessel is opened they fly out, see the light, and die. Thus it is that Nature has permitted them to come to life, but has rescued them as soon as possible from life's evils, so that they are neither aware of their own misfortune nor are spectators of the misfortune of others.

2.5 Men have, it is true, recovered after a long while from the bite of an Asp, either by summoning excision to their aid or with the utmost fortitude enduring cautery, or they have in their plight prevented the poison from spreading by taking the necessary medicines.

The Basilisk measures but a span, yet at the sight of it the longest snake not after an interval but on the instant, at the mere impact of its breath, shrivels. And if a man has a stick in his hand and the Basilisk bites it, the owner of the rod dies.

2.6 The Dolphin's love of music and its affectionate nature are a constant theme, the former with the people of Corinth (with whom the Lesbians concur), the latter with the inhabitants of Ios. The Lesbians tell the story of Arion of Methymna; what happened in Ios with the beautiful boy and his swimming and the Dolphin is told by the inhabitants of Ios.

A certain Byzantine, Leonidas by name, declares that while sailing past Aeolis he saw with his own eyes at the town called Poroselene a tame Dolphin which lived in the harbour there and behaved towards the inhabitants as though they were personal friends.

And further he declares that an aged couple fed this foster-child, offering it the most alluring baits. What is more, the old couple had a son who was brought up along with the Dolphin, and the pair cared for the Dolphin and their own son, and somehow by dint of being brought up together the manchild and the fish gradually came without knowing it to love one another, and, as the oft-repeated tag has it, 'a super-reverent counter-love was cultivated' by the aforesaid. So then the Dolphin came to love Poroselene as his native country and grew as fond of the harbour as of his own home, and what is more, he repaid those who had cared for him what they had spent on feeding him. And this was how he did it. When fully grown he had no need of being fed from the hand, but would now swim further out, and as he ranged abroad in his search for some quarry from the sea, would keep some to feed himself, and the rest he would bring to his 'relations.' And they were aware of this and were even glad to wait for the tribute which he brought. This then was one gain; another was as follows. As to the boy so to the Dolphin his foster-parents gave a name, and the boy with the courage born of their common upbringing would stand upon some spot jutting into the sea and call the name, and as he called would use soothing words. Whereat the Dolphin, whether he was racing with some oared ship, or plunging and leaping in scorn of all other fish that roamed in shoals about the spot, or was hunting under stress of hunger, would rise to the surface with all speed, like a ship that raises a great wave as it drives onward, and drawing near to his loved one would frolic and gambol at his side; at one moment would swim close by the boy, at another would seem to challenge him and even induce his favourite to race with him. And what was even more astounding, he would at times even decline the winner's place and actually swim second, as though presumably he was glad to be defeated.

These happenings were noised abroad, and those who sailed thither reckoned them among the excellent sights which the city had to show; and to the old people and to the boy they were a source of revenue.

2.7 Archelaus tells us that in Libya mules that have been wounded or which have succumbed from thirst are thrown out for dead in great numbers.

And frequently a multitude of snakes of all kinds comes streaming up to eat their flesh, but whenever they hear the hiss of the Basilisk they disappear as swiftly as possible into their dens or beneath the sand, and hide; so the Basilisk on reaching the spot feasts in complete tranquillity. Then



again with a hiss he is off, and thereafter as to the mules and to the feast which they provide, 'he marks their place,' as the saying has it, 'only by the stars.'

2.8 There are stories which reach us from Euboea of fisher-folk in those parts sharing their catch equally with the Dolphins in those parts. And I am told that they fish in this way. The weather must be calm, and if it is, they attach to the prow of their boats some hollow braziers with fire burning in them, and one can see through them, so that while retaining the fire they do not conceal the light. They call them lanterns. Now the fish are afraid of the brightness and are dazzled by the glare, and some of them not knowing what is the purpose of the thing they see, draw near from a wish to discover what it is that, frightens them. Then terror-stricken they either lie still in a mass close to some rock, quivering with fear, or are cast ashore as they are jostled along, and seem thunderstruck. Of course in that condition it is perfectly easy to harpoon them. So when the Dolphins observe that the fishermen have lit their fire, they get ready to act, and while the men row softly the Dolphins scare the fish on the outskirts and push them and prevent any escape. Accordingly the fish pressed on all sides and in some degree surrounded, realise that there is no escaping from the men that row and the Dolphins that swim; so they remain where they are and are caught in great numbers. And the Dolphins approach as though demanding the profits of their common labour due to them from this store of food. And the fishermen loyally and gratefully resign to their comrades in the chase their just portion — assuming that they wish them to come again, unsummoned and prompt, to their aid, for those toilers of the sea are convinced that if they omit to do this, they will make enemies of those who were once friends.

2.9 A Deer defeats a snake by an extraordinary gift that Nature has bestowed. And the fiercest snake lying in its den cannot escape, but the Deer applies its nostrils to the spot where the venomous creature lurks, breathes into it with the utmost force, attracts it by the spell, as it were, of its breath, draws it forth against its will, and when it peeps out, begins to eat it. Especially in the winter does it do this. Indeed it has even happened that a man has ground a Deer's horn to powder and then has thrown the powder into fire, and that the mounting smoke has driven the snakes from all the neighbourhood: even the smell is to them unendurable.

2.10 The Horse is generally speaking a proud creature, the reason being that his size, his speed, his tall neck, the suppleness of his limbs, and the clang of his hooves make him insolent and vain. But it is chiefly a Mare with a long mane that is so full of airs and Graces. For instance, she scorns to be covered by an ass, but is glad to mate with a horse, regarding herself as only fit for the greatest (of her kind). Accordingly those who wish to have mules born, knowing this characteristic, clip the Mare's mane in a haphazard fashion anyhow, and then put asses to her. Though ashamed at first, she admits her present ignoble mate. Sophocles also appears to mention this humiliation.

2.11 Touching the sagacity of Elephants I have spoken elsewhere; and further, I have spoken too of the manner of hunting them, mentioning but a few of the numerous facts recorded by others. For the present I intend to speak of their sense for music and their readiness to obey and their aptitude for learning things which are difficult even for mankind, to say nothing of so huge an animal and one hitherto so fierce to encounter. The movements of a chorus, the steps of a dance, how to march in time, how to enjoy the sound of flutes, how to distinguish different notes, when to slacken pace as permitted or when to quicken at command — all these things the Elephant has learnt and knows how to do, and does accurately without making mistakes. Thus, while nature has created him to be the largest of animals, learning has rendered him the most gentle and docile. Now had I set out to write about the readiness to obey and to learn among elephants in India or in Ethiopia or in Libya, anyone

might suppose that I was concocting some pretentious tale, that in fact I was on the strength of hearsay about the beast giving a completely false account of its nature. That is the last thing that a man in pursuit of knowledge and an ardent lover of the truth has any right to do. Instead I have preferred to state what I have myself seen and what others have recorded as having formerly occurred in Rome, treating summarily a few facts out of many, which nevertheless sufficiently demonstrate the peculiar nature of the beast.

The Elephant when once tamed is the gentlest of creatures and is easily induced to do whatever one wants. Now keeping due eye on the time, I shall state the most important events first. Germanicus Caesar was about to give some shows for the Romans (He would be the nephew of Tiberius). There were in Rome several full-grown male and female elephants and there were calves born of them in the country; and when their limbs began to grow firm, a man who was clever at dealing with such beasts trained them and instructed them with uncanny and astounding dexterity. To begin with he introduced them in a quiet, gentle fashion to his instructions, supplying them with delicacies and the most appetising food, varied so as to allure and entice them into abandoning all trace of ferocity and into becoming renegades, that is tame and to some degree human. So what they learnt was not to go wild at the sound of flutes, not to be alarmed at the beating of drums, to be charmed by the pipe and to endure discordant notes, the beat of marching feet, and the singing of crowds. Moreover they were thoroughly trained not to be afraid of men in masses. And further their disciplining was manly in the following respects: they were not to get angry at the infliction of a blow, nor, when obliged to move some limb and to sway in time to dance or song, to burst into a rage, even though they had attained to such strength and courage. Now to refrain by instinct from misbehaving and from flouting the instruction given by a man is a virtue and a mark of nobility. When therefore the dancing-master had brought them to a high degree of proficiency, and they performed accurately what he had taught them, they did not disappoint the labour spent on their training (so they say) in the place where in due time the occasion demanded that they should display what they had been taught. Now this troupe was twelve in number, and they advanced in two groups from the right and the left sides of the theatre. They entered with a mincing gait, swaying their whole body in a delicate manner, and they were clothed in the flowered garments of dancers. And at no more than a word from the conductor they formed into line (so we are told) — supposing that to have been their teacher's order. Then again they wheeled into a circle when he so ordered them, and if they had to deploy, that also they did. And then they sprinkled flowers to deck the floor, but with moderation and economy, and now and again they stamped, keeping time in a rhythmical dance. That Damon therefore, that Spintharus, Aristoxenus, Philoxenus, and others should be experts in music and should be numbered among the few for their knowledge of it is certainly matter for wonder but by no means incredible or absurd. The reason is that man is a rational animal capable of understanding and logical thought. But that an inarticulate animal should comprehend rhythm and melody, should follow the movements of a tragic dance without a false step, fulfilling all that its lessons required of it — these are gifts bestowed by Nature, and each one is a singularity that fills one with amazement.

But what followed was enough to send the spectator wild with delight. On the sand of the theatre were placed mattresses of low couches, and on these in turn cushions, and over them embroidered coverlets, clear evidence of a house of great prosperity and ancestral wealth. And close at hand were set costly goblets and bowls of gold and of silver, and in them a large quantity of water; and beside them were placed tables of citrus wood and of ivory, of great magnificence, and they were laden with meat and bread enough to satisfy the stomachs of the most voracious animals. So as soon as the preparations were completed in all their abundance, the banqueters came on, six males and an equal number of females; the former were clad in masculine garb, the latter in feminine; and they took

their places in orderly fashion in pairs, a male and a female. And at a signal they reached forward their trunks modestly, as though they were hands, and ate with great decorum. And not one of them gave the impression of being a glutton nor yet of trying to forestall others or of being inclined to snatch too large a portion, as the Persian did who occurs in Xenophon the golden. And when they wanted to drink, a bowl was placed by each one, from which they sucked up the water with their trunks and drank it in an orderly manner, and then proceeded to squirt (the attendants) in fun, not by way of insult.

Many similar stories have been recorded showing the astounding ingenuity of these animals. And I myself have seen one actually with its trunk writing Roman letters on a tablet in a straight line without any deviation. The only thing was that the instructor's hand was laid upon it, directing it to the shape of the letters until the animal had finished writing; and it looked intently down. You would have said that the animal's eyes had been taught and knew the letters.

2.12 The Hare has certain innate characteristics. For one thing it sleeps with its eyelids open; for another it proclaims its age when it half shows certain apertures, Also it carries some of its young half-formed in its womb, some it is in process of bearing, others it has already borne.

2.13 All the large fishes, with the exception of the Shark, require a leader, and are guided by its eyes. The leader is a small, slim fish with an elongated head, but its tail is narrow, according to the authorities on the subject. But whether Nature has conferred upon each large fish the aforesaid guide, or whether it associates with the large fish of its own free will out of friendliness, I am unable to say, but I prefer to believe that this is done under the compulsion of Nature, for this fish never swims by itself, but moves in front of the large fish's head and is its leader and, as it were, tiller. For instance, it foresees and takes previous notice of everything on behalf of the large fish; it forewarns it of everything by the tip of its tail, and by its contact signals to the fish, keeping it away from what is to be feared but leading it on to what will feed it. And by some invisible sign it warns the fish that its pursuers have designs upon it, and gives timely indication of those spots which a creature of its size ought not to approach, if it is not to be surrounded and perish utterly on some reef.

So then the first essential for the life of the largest of creatures is the smallest. And it seems that when the large fish becomes very fat it can no longer see nor hear, the vast bulk of its flesh being an obstacle to sight and to hearing. But the 'leader' is never seen apart from the large fish; if however, with its responsibility for the services described above, it dies first, then the large fish is bound to die also.

2.14 The Chameleon is not disposed to remain of one and the same colour for men to see and recognise, but it conceals itself by misleading and deceiving the eye of the beholder. Thus, if you come across one that appears black, it changes its semblance to green, as though it had changed its clothes; then again it assumes a bluish-grey tint and appears different, like an actor who puts on another mask or another garment. This being so, one might say that even Nature, though she does not boil anyone down nor apply drugs, like a Medea or a Circe, is also a sorceress.

2.15 You must know that the Pilot-fish frequents the open sea and loves to dwell in the depths more than all others of which we have heard tell. But either it detests the land or the land detests the fish. Well, when vessels are cleaving the mid-ocean these Pilot-fish swim up as though they were in love with them and attend them like a bodyguard, circling this way and that as they gambol and leap. Now the passengers are of course totally unable to tell how far they are from land, and even the sailors themselves are frequently mistaken as to the true fact. The Pilot-fish however can tell from a

long way off, like a keen-scented hound which immediately gets wind of the prey, and then they are no longer so captivated by the vessel as to stay at her side, but mass as at a signal and are off and away. Thereupon those in control of the vessel know that they must look around for land, not because they judge by beacons but because they have been instructed by the aforesaid fish.

2.16 If at any time a flush or a pallor appears on a man's bare and hairless skin it causes no astonishment. But the animal known as *Tarandus* (elk?) transforms itself hair and all, and can adopt such an infinite variety of colours as to bewilder the eye. It is a native of Scythia and in its [hide?] and its size resembles a bull; and the Scythians cover their shields with its hide and consider it a good counter to a spear.

2.17 There is a fish whose province is the open sea, black in appearance, as long as an eel of moderate size, and deriving its name from what it does: with evil purpose it meets a vessel running at full speed before the wind, and fastening its teeth into the front of the prow, like a man vigorously curbing with bit and tightened rein an intractable and savage horse, it checks the vessel's onrush and holds it fast. In vain do the sails belly in the middle, to no purpose do the winds blow, and depression comes upon the passengers. But the sailors understand and realise what ails the ship; and it is from this action that the fish has acquired its name, for those who have had experience call it the *Ship-holder*.

2.18 In Homer skill in treating the wounded and persons in need of medicine goes back as far as the third generation of pupil and master. Thus Patroclus, son of Menoetius, is taught the healing art by Achilles, and Achilles, son of Peleus, is taught by Cheiron, son of Cronus. And heroes and children of the gods learnt about the nature of roots, the use of different herbs, the concocting of drugs, spells to reduce inflammations, the way to staunch blood, and everything else that they knew. And moreover there are discoveries which men of a later age have made. But that Nature really has no need of these ingenuities is proved by the case of the Elephant, for instance, when it is assailed with spears and a shower of arrows, it eats the flower of the olive or the actual oil, and then shakes off every missile that has pierced it and is sound and whole again.

2.19 [And here is another strange feature peculiar to this animal.] The Bear is unable to produce a cub, nor would anyone allow, on seeing its offspring immediately after birth, that it had borne a living thing. Yet the Bear has been in labour, though the lump of nondescript flesh has no distinguishing mark, no form, and no shape. But the mother loves it and recognises it as her child, keeps it warm beneath her thighs, smooths it with her tongue, fashions it into limbs, and little by little brings it into shape; and when you see it you would say that this is a Bear's cub.

2.20 All Bulls have inflexible and rigid horns, and this is why, just as a man puts passion into his weapons, so a bull puts passion into its horns. But the oxen of Erythrae can move their horns as they do their ears.

2.21 The land of Ethiopia (the place where the gods bathe, celebrated by Homer under the name of *Ocean*, is an excellent and desirable neighbour), this land, I say, is the mother of the very largest Serpents. For, you must know, they attain to a length of one hundred and eighty feet, and they are not called by the name of any species, but people say that they kill elephants, and these Serpents rival the longest-lived animals. Thus far the accounts from Ethiopia. But according to accounts from Phrygia there are Serpents in Phrygia too, and these grow to a length of sixty feet, and every day in midsummer some time after noon they creep out of their lairs. And on the banks of the river Rhyndacus while supporting part of their coils on the ground, they raise all the rest of their body

and, steadily and silently extending their neck, open their mouth and attract birds by their breath, as it were by a spell. And the birds descend, feathers and all, into their stomach, drawn in by the Serpents' breathing. And these singular practices they continue until sundown; next, the Serpents hide and lie in wait for the flocks, and as they return to the sheepfolds from the pasture they fall upon them, and after a terrible slaughter they have frequently killed the herdsmen as well, thus obtaining a generous and abundant feast.

2.22 Sprats are born of mud; they neither beget nor are begotten of one another, but when the mud in the sea becomes altogether slimy and thick and turns black, it is warmed by some inexplicable and life-giving principle, undergoes a transformation, and is changed into innumerable living creatures. The Sprats are these creatures, resembling worms which are generated in mire and filth. And as soon as born, Sprats are excellent swimmers, and they do it naturally. Then by some mysterious agency they are led to safe places where they will find shelter and protection, so that it will be possible for them to live. And their place of refuge is likely to be either some rock that rises to a great height or what are called 'baker's pots'; these would be rocks full of embrasures which the waves have in time eaten away until they have become hollow. These then are the retreats to which Nature has pointed them so that they shall not be battered and demolished by the swell of the sea; for they have little strength and are powerless to resist the impact of the waves. They need no food, indeed it is enough for them to lick one another. The way to catch them is to use exceedingly fine thread with thin pieces from the warp of garments laced in. This device should be quite sufficient for catching and securing them, though for the capture of other fish it would be utterly inadequate.

2.23 Should you strike a Lizard with a stick and either on purpose or by accident cut it in two, neither of the two parts is killed, but each moves separately and by itself, and lives, both the one and the other trailing on two feet. Then when the parts meet — for the forepart frequently unites with the hinder — the two join up and coalesce after their separation. And the Lizard, now one body, although a scar gives evidence of what it has suffered, yet runs about and maintains its former method of life exactly like one of its kind that has had no such experience.

2.24 The poison of serpents is a thing to be dreaded, but that of the Asp is far worse. Nor are remedies and antidotes easy to discover, however ingenious one may be at beguiling and dispelling acute pains. Yet after all there is in man also a certain mysterious poison, and this is how it has been discovered. If you capture a Viper and grasp its neck very firmly and with a strong hand, and then open its mouth and spit into it, the spittle slides down into its belly and has so disastrous an effect upon it as to cause the Viper to rot away. From this you see how foul can be the bite of one man to another and as dangerous as the bite of any beast.

2.25 In the summertime when the harvest is in and the corn is being threshed on the threshing-floor, Ants assemble in companies, going in single file or two abreast — indeed they sometimes go three abreast — after quitting their homes and customary shelters. Then they pick out some of the barley and the wheat and all follow the same track. And some go to collect the grain, others carry the load, and they get out of each other's way with the utmost deference and consideration, especially those that are not laden for the benefit of those that are. Then they return to their dwellings and fill the pits in their store-chamber after boring through the middle of each grain. What falls out becomes the Ant's meal at the time; what is left is infertile. This is a device on the part of these excellent and thrifty housekeepers to prevent the intact grain from putting out shoots and sprouting afresh when the rains have surrounded them, and to preserve themselves in that ease from falling victims during

the winter to want of food and to famine, and their zeal from being blunted. It is to Nature then that Ants too owe these and other fortunate gifts.

2.26 At no time does the Eagle need water or long for a dusting-place; he is on the contrary superior to thirst and looks for no medicine for weariness from any outside source, but scorning water and repose he cleaves the atmosphere and gazes with piercing eye from the vast expanse of heaven on high. And at the mere sound of those rushing wings even that most intrepid of all creatures, the great serpent, dives at once into its den and is glad to disappear. And this is the way in which the Eagle tests the legitimacy of his young ones. He plants them, while they are still tender and unfledged, facing the rays of the sun, and if one of them blinks, unable to endure the brightness of the rays, it is thrust out of the nest and banished from that hearth. If however it can face the sun quite unmoved, it is above suspicion and is enrolled among the legitimate offspring, since the celestial fire is an impartial and uncorrupt register of its origin.

2.27 The Ostrich is covered with thick feathers, but its nature does not permit it to rise from the ground and mount aloft into the sky. Yet its speed is very great, and when it spreads its wings on either side, the wind meeting them causes them to belly like sails.

2.28 Among birds the Bustard is, I am told, the most fond of horses. And the proof of this is that it scorns all other animals that live in field or glen, but that when it catches sight of a horse, it delights to fly up to it and to keep it company, just like men who are devoted to horses.

2.29 When a Fly falls into the water, though it is of all creatures the most daring, yet it can neither run upon the surface nor swim, and hence it drowns. If however you pick out the dead body, sprinkle ashes upon it, and place it in the sunshine, you will bring the Fly to life again.

2.30 If you want to add a Cockerel, whether bought or presented, to your flock of domestic fowls, you must not release him nor let him loose at random and in a casual way; otherwise he will immediately desert and go back to his own kin and mates, however far away from them he be. So you must set upon him a guard and fetters more invisible than those of Hephaestus in Homer. What I prescribe is this. Place the table at which you eat, in the open, seize the Cockerel, and when you have taken him three times round the aforesaid platform, then let him go free to wander with the fowls of the house. He will not go away any more than if he were chained up.

2.31 The Salamander is not indeed one of those fire-born creatures like the so-called 'Fire-flies,' yet it is as bold as they and encounters the flame and is eager to fight it like an enemy. And the proof of this is as follows. Its haunts are among artisans and craftsmen who work at the forge. Now so long as their fire is at full blast and they have it to help their craft and to share their skill, they pay not the smallest attention to this animal. When however the fire goes out or languishes and the bellows blow in vain, then at once they know full well that the aforesaid creature is working against them. Accordingly they track it down and exact vengeance; and then the fire is lit, is easily coaxed up, and does not go out, provided it is kept fed with the usual material.

2.32 The Swan is assigned by poets and many prose-writers as servant to Apollo, but in what other relation it stands to music and song I do not know. Yet the ancients believed that when it has sung what is called its 'swan-song,' it dies. In that case Nature honours it more highly than it does noble and upright men, and rightly so, for while others praise and lament them, Swans praise or, if you will, lament themselves.

2.33 Many writers tell us about the size of the Crocodile both when fully grown and when first hatched, and further, about its tongue, and whether it moves its jaw and which jaw it closes upon the other. There are those too who have observed that this animal lays as many eggs as the days during which it sits upon them before hatching out its young. And I have myself heard that when a Crocodile dies a scorpion is born from it; and they do say that it has a sting in its tail which is full of poison.

2.34 If these facts are certain and beyond dispute, then let this story from India carry conviction. What I propose to tell has been brought from thence by report and is as follows. I have learnt from the son of Nicomachus (Aristotle) that there is a bird named *Cinnamon* like the plant, and that the bird brings this plant, which is named after it, to the Indians, but that these people have no knowledge where and how the plant grows.

2.35 The Egyptians assert that a knowledge of clysters and intestinal purges is derived from no discovery of man's, but they commonly affirm that it was the Ibis that taught them this remedy. And how it instructed those who were the first to see it, some other shall tell. And I have also heard that it knows when the moon is waxing and when waning; and I cannot deny that I have learnt from some source that it diminishes or increases its food according as the goddess herself diminishes or increases.

2.36 The Sting-ray in the sea has a far fiercer and more dangerous sting than all other creatures. The proof is that if you fix it in a flourishing tree that has grown to a great height, then without any delay, before any time has elapsed, the tree immediately withers. And if you allow the sting to scratch any living creature, you kill it at once.

2.37 So long as the Shrew-mouse proceeds as chance directs, it can live, and Nature is on friendly terms with it, unless it is overtaken by misfortune from some other quarter and is killed. When however it falls into a rut, it is caught, so to say, in quite invisible fetters and dies. The remedy for a man who has been bitten by a Shrew-mouse is as follows. Take some sand from the wheel-track, sprinkle it on the bite, and it cures him immediately.

2.38 Here is another story relating to the Egyptian Ibis which I have heard. The bird is sacred to the moon. At any rate it hatches its eggs in the same number of days that the goddess takes to wax and to wane, and never leaves Egypt. The reason for this is that Egypt is the moistest of all countries and the moon is believed to be the moistest of all planets. Of its own free will the Ibis would never quit Egypt, and should some man lay hands upon it and forcibly export it, it will defend itself against its assailant and bring all his labour to nothing, for it will starve itself to death and render its captor's exertions vain. It walks quietly like a maiden, and one would never see it moving at anything faster than a foot's pace. The Black Ibis does not permit the winged serpents from Arabia to cross into Egypt, but fights to protect the land it loves, while the other kind encounters the serpents that come down the Nile when in flood and destroys them. Otherwise there would have been nothing to prevent the Egyptians from being killed by their coming.

2.39 There is, I am told, a species of eagle to which men have given the name of 'Golden Eagle,' though others call it *Asterias* (starred). And it is seldom seen. Aristotle says that it hunts fawns, hares, cranes, and geese of the farmyard. It is believed to be the largest of eagles; at any rate men say that it attacks bulls with violence, and its method of attack they describe as follows. The bull is feeding with his head down, and the Eagle alights upon his neck and with its beak delivers a rain of powerful blows. And the bull goes wild as though stung by a gadfly, and sets off to run as fast as

he can go. So long as the land makes going easy the Eagle bides its time, flying above him and watching. But directly it sees the bull near a precipice it makes an arch with its wings, covers the bull's eyes so that he cannot see what is before him, and down he goes with a fearful crash. Whereupon the Eagle pounces, rips open his stomach, and has no difficulty in enjoying its prey to its heart's content. But the prey killed by some other creature it will not touch: rather it delights in its own labours and will not for one moment admit any other creature to share them. Later when it has gorged itself, it breathes over the rest of the carcase a foul and most ill-smelling air, leaving the remains unfit for any other animal to eat. What is more, Eagles build their nests far apart from one another so as to avoid quarrelling over their prey [and being a constant source of mutual hurt].

2.40 It seems that Eagles are full of affection even towards their keepers; witness the Eagle that belonged to Pyrrhus, which (they say) on the death of its master abstained from food and died too. And there was once an Eagle reared by a private citizen which threw itself on to the pyre where its master's body was burning. Some say that it had been reared not by a man but by a woman. The Eagle is apparently the most jealous guardian of its young. At any rate if it sees anyone approaching them, it does not allow him to depart unpunished, for it beats him with its wings and lacerates him with its talons; and the punishment it inflicts is moderate, for it does not use its beak.

2.41 The Red Mullet is of all sea animals the most gluttonous and indisputably the most unrestrained in tasting everything it comes across. And some of them are known as 'roughs,' deriving their name from places where there are rough rocks full of holes and thick growths of seaweed in them, and where there is a bottom of mud or sand. A Red Mullet would eat the dead body of a man or of a fish, and its special delight is in filthy, ill-smelling food.

2.42 Falcons are excellent at fowling and are no whit inferior to eagles; they are by nature the tamest of birds and the most attached to man; in size they are as large as eagles. And I am told that in Thrace they even join with men in the pursuit of marsh-fowl. And this is how they do it. The men spread their nets and keep still while the Falcons fly over them and scare the fowl and drive them into the circle of nets. For this the Thracians allot a portion of their catch to the Falcons and find them trusty friends; if they do not do so, they at once deprive themselves of helpers. Now the full-grown Falcon will fight both with a fox and with an eagle; with a vulture it frequently fights. But a Falcon will never eat the heart, thereby presumably fulfilling some mystic rite. If a Falcon sees the dead body of a man (so it is said), it always heaps earth upon the unburied corpse, though Solon laid no such injunction upon it, and will never touch the body. And it even refrains from drinking if a solitary man is engaged in leading off water into a channel, feeling sure that it will cause damage to the man who so labours if it purloins the water which he needs. But if several men are engaged in irrigating, it sees that the stream is abundant and takes its share from the loving-cup, so to speak, which they offer, and is glad to drink.

2.43 There is a species of hawk known as the Kestrel which has no need whatever to drink. Another species is the Orites Hawk. Both species are remarkably addicted to the female bird and pursue it after the manner of lovesick men and never cease from the pursuit. But should the female chance to disappear without the male noticing it, he is overcome with grief and cries aloud and is like one in the depths of woe from love.

When Hawks are troubled with their eyesight they go straight to some stone wall and pull up some wild lettuce and then holding it above their eyes allow the bitter, astringent juice to drip in; and this restores their health. And men say that doctors use this drug for the benefit of those whose sight is



affected, and the remedy derives its name from these birds. And men do not refuse to be called the disciples of birds; rather they admit as much.

It is said that once upon a time a Hawk at Delphi proved a man guilty of sacrilege by swooping upon him and striking his head. It is also believed that Hawks are bastards, if they be compared with the various kinds of eagles.

At the beginning of spring the Hawks of Egypt select two from all their number and despatch them to reconnoitre certain desert islands off the coast of Libya. When they return they act as leaders to the rest in their flight. And their arrival is the occasion of rejoicing on the part of the Libyans at their sojourn, for they do no damage whatever. And having reached the islands which the original scouts decided were the most suitable for them, they there lay and hatch their eggs in complete security and peace; and they hunt sparrows and pigeons and rear their young in an abundance of food. Then when these have grown strong and are able to fly, they take the young birds with them back to Egypt as though they were going to their own homes, that is to their haunts in regions they have grown to know.

2.44 Rainbow Wrasses are nurslings of rocks, and their mouth is full of poison, and whatever fish they touch they render uneatable. Indeed if it should happen that fishermen, coming upon a half-eaten prawn and fancying that their catch is unsaleable, should taste it, they are assailed by convulsions and torments in their stomach. And the Wrasses also molest those who dive and swim in pursuit of fish, falling upon them in great numbers and biting them, exactly like flies on land; so that one must either beat them off or be tormented by being eaten up. But while one is busy beating them off, there is no time to attend to one's work.

2.45 The Sea-hare when eaten has often been the cause even of death; in any case it causes pains in the stomach. It is born in the mud and is not infrequently caught along with sprats. In appearance it is not unlike a snail without its shell.

2.46 The Vulture is the dead body's enemy. At any rate it swoops upon it as though it were an adversary and devours it, and watches a man who is in the throes of death. Vultures even follow in the wake of armies in foreign parts, knowing by prophetic instinct that they are marching to war and that every battle provides corpses, as they have discovered.

It is said that no male Vulture is ever born: all Vultures are female. And the birds knowing this and fearing to be left childless, take measures to produce them as follows. They fly against the south wind. If however the wind is not from the south, they open their beaks to the east wind, and the inrush of air impregnates them, and their period of gestation lasts for three years. But the Vulture is said never to make a nest. The Aegyptius however, which is on the border-line between the vulture and the eagle, is both male and female, and is black in colour, and I am told that their nests are pointed out. But I have been informed that Vultures do not lay eggs, but that in their birth-pangs they produce chicks, and that these are feathered from birth I have also heard.

2.47 There is no limit to the robberies of the Kite. If they can manage pieces of meat on sale in the market, they pounce upon them and carry them off; on the other hand they will not touch sacrifices offered to Zeus. But the Mountain Kite pounces upon birds and pecks out their eyes.

2.48 The Ravens in Egypt which live beside the Nile at first appear to be begging of the people sailing on the river, soliciting to be given something. And if they are given, they stop begging; but if

their solicitations fail, they fly in a mass and perch on the sailyards of the ship and proceed to eat the ropes and to cut the cords. But the Ravens of Libya, when men through fear of thirst draw water and fill their vessels and place them on the roof so that the fresh air may keep the water from putrefying, the Ravens, I say, help themselves to drink by bending over and inserting their beaks as far as they will go. And when the water gets too low they gather pebbles in their mouth and claws and drop them into the earthenware vessel. Now the pebbles are borne down by their weight and sink, while the water owing to their pressure rises. So the Ravens by a most ingenious contrivance get their drink; they know by some mysterious instinct that one space will not contain two bodies.

2.49 Aristotle asserts that Ravens know the difference between a prosperous and a barren country, and in one that produces all things in plenty they move about in flocks and great numbers, but in a barren and unfruitful country in pairs. As to their young ones, when fully grown, every Raven banishes them from its nest. For that reason they seek their food (for themselves) and neglect to care for their parents.

2.50 Among fishes the Goby, the Weever, and the Flying Gurnard emit poison when they prick one; not that they are deadly; whereas the Sting-ray with its barb kills on the spot. And Leonidas of Byzantium tells how a man who knew nothing of fishes and could not distinguish them, stole a Stingray from a fishing-net — the poor fellow must have taken it for a flounder — took it and put it in his bosom and walked off as though he had found something good, some spoil whose sale would be profitable to him. But the Sting-ray hurt by the pressure, struck and pierced him with its sting, causing the wretched thief's bowels to gush out. And there the thief lay dead beside the Sting-ray, clear evidence of what he had done in his ignorance.

2.51 Of the Raven you might say that it has a spirit no less daring than the eagle, for it even attacks animals, and not the smallest either, but asses and bulls. It settles on their neck and pecks them, and in many cases it actually gouges out their eyes. And it fights with that vigorous bird the merlin, and whenever it sees it fighting with a fox, it comes to the fox's rescue, for it is on friendly terms with the animal. The Raven must really be the most clamorous of birds and have the largest variety of tones, for it can be taught to speak like a human being. For playful moods it has one voice, for serious moods another, and if it is delivering answers from the gods, then its voice assumes a devout and prophetic tone. Ravens know that in summer they suffer from looseness of the bowels; for that reason they are careful to abstain from moist food.

2.52 Aristotle tells us that some animals are viviparous, others oviparous, that others again produce grubs. The viviparous are man and all other creatures that have hair, and among marine animals the cetaceans. And of these some have a blow-hole but no gills, like the dolphin and the whale.

2.53 In Moesia the Oxen draw loads and are horn-less. And I maintain that it is not due to the cold that herds are to be seen without horns, but that it is due to the peculiar nature of the Oxen. And the proof is to hand, for even in Scythia there are oxen not destitute of the glory of horns. And I have learnt from one who records the fact in his history that there are even Bees in Scythia and that they do not mind the cold at all. And what is more, the Scythians bring and sell to the Moesians honey, which is no alien produce but native, and honeycombs of their own country. If I contradict Herodotus, I hope he will not be angry with me, for the man who reported these things vowed that he was presenting the results of his own enquiry and not merely repeating what he had heard and what we could not verify.

2.54 I learn that of saltwater fishes the Parrot Wrasse alone regurgitates its food and eats it afterwards, as sheep do, which are said to chew the cud.

2.55 The Shark brings forth its young through its mouth in the sea and takes them back again and then disgorges them by the same channel alive and unharmed.

2.56 The liver of the Mouse has the most astounding and unexpected habit of growing a lobe day by day as the moon waxes, up to the middle of the month. Then again in proportion as the month declines, so the lobe gradually dwindles until it loses its shape and disappears into the body.

And I am told that when it hails in the Thebaid, mice are to be seen on the earth, and one part of them is still mud while the other is already flesh. And I myself on a journey from Naples to Dicaearchia encountered a shower of frogs, and the forepart of them was crawling, supported by two feet, while the other part trailed behind, still formless, seeming to consist of some moist substance.

2.57 Oxen are after all the most serviceable creatures. At sharing the farmer's labours, at carrying loads of various kinds, at filling the milk-pail — at all these things the Ox is excellent. He Graces the altars, gladdens festivals, and provides a solemn banquet. And even when dead the Ox is a splendid creature deserving our praise. At any rate bees are begotten of his carcase — bees, the most industrious of creatures, which afford the best and sweetest of fruits that man has, namely honey.

## Book 3

3.1 A Lion will accompany a Moor on his journey and will drink water from the same spring. And I am told that Lions even resort to the houses of Moors when they fail to find any prey and are overtaken by the pangs of hunger. And if the master of the house happens to be there, he keeps the Lion off and drives him away, pursuing him vigorously. If however he is out and his wife is left all alone, then with words that put the Lion to shame she checks his approach, restrains him, and admonishes him to control himself and not to allow his hunger to incense him. The Lion, it seems, understands the Moorish tongue; and the sense of the rebuke which the woman administers to the animal is (so they say) as follows. 'Are not you ashamed, you, a Lion, the king of beasts, to come to my hut and to ask a woman to feed you, and do you, like some cripple, look to a woman's hands hoping that thanks to her pity and compassion you may get what you want? You who should be on your way to mountain haunts in pursuit of deer and antelopes and all other creatures that lions may eat without discredit. Whereas, like some sorry lap-dog, you are content to be fed by another.'

Such are the spells she employs, whereupon the Lion, as though his heart smote him and he were filled with shame, quietly and with downcast eyes moves off, overcome by the justice of her words.

Now if horses and hounds through being reared in their company understand and quail before the threats of men, I should not be surprised if Moors too, who are reared and brought up along with Lions, are understood by these very animals. For the Moors profess to treat lion-cubs to the same kind of food, the same bed, and the same roof as their own children. Consequently there is nothing incredible or marvellous in Lions understanding human speech as described above.

3.2 Concerning the Libyan Horse this is what I have learnt from accounts given by the Libyans. These Horses are exceedingly swift and know little or nothing of fatigue; they are slim and not well-fleshed but are fitted to endure the scanty attention paid to them by their masters. At any rate the masters devote no care to them: they neither rub them down nor roll them nor clean their hooves nor comb their manes nor plait their forelocks nor wash them when tired, but as soon as they have completed the journey they intended they dismount and turn the Horses loose to graze. Moreover the Libyans themselves are slim and dirty, like the Horses which they ride. The Persians on the other hand are proud and delicate, and what is more, their Horses are like them. One would say that both horse and master prided themselves on the size and beauty of their bodies and even on their finery and outward adornment.

And here is a point which occurs to me to note in connexion with Hounds. The Cretan Hound is nimble and can leap and is brought up to range the mountains. Moreover the Cretans show the same qualities, such is the common report. Among Hounds the Molossian is the most high-spirited, for the men also of Molossia are hot-tempered. In Carmania too both men and Hounds are said to be most savage and implacable.

3.3 The following also are examples of the peculiarities of animal nature. Ctesias reports that neither the wild nor the domestic Pig exists in India, and he says somewhere that Indian Sheep have tails one cubit in width.

3.4 The Ants of India which guard the gold will not cross the river Campylinus. And the Issedonians who inhabit the same country as the Ants . . . they are called, and so they are.

3.5 If a Tortoise eats part of a snake and thereafter some marjoram, it becomes immune from the poison which was bound to be quite fatal to it.

I have heard people say that the Pigeon is of all birds the most temperate and restrained in its sexual relations. For Pigeons never separate, neither the female bird unless by some mishap she is parted from her mate, nor the male unless he is widowed.

Partridges on the other hand are unrestrained in their indulgence. For that reason they destroy the eggs that have been laid, in order that the female birds may not be too busy with nursing their chicks to have time for sexual intercourse.

3.6 When Wolves swim across a river Nature has devised for them an original safeguard to prevent them from being forcibly carried away by the impact of the stream and has taught them how to escape from difficulties, and that with ease. Fastening their teeth in one another's tails they then breast the stream and swim across without harm or danger.

3.7 It is said that Nature has not bestowed the power of braying upon she-Asses. Nature too has enabled Hyenas to stop hounds from barking. The fragrance of perfumes causes death to Vultures; hemlock is the bane of Swans; Cyrus and Croesus learned how Horses dread camels, so the story goes.

3.8 When Mares desert their foals and leave them, like orphans, before they are fully weaned, other Mares take compassion on them and bring them up with their own foals.

3.9 Crows are exceedingly faithful to each other, and when they enter into partnership they love one another intensely, and you would never see these creatures indulging freely in promiscuous intercourse. And those who are accurately informed about them assert that if one dies, the other remains in widow-hood. I have heard too that men of old used actually at weddings to sing 'the Crow' after the bridal song by way of pledging those who came together for the begetting of children to be of one mind. While those who observe the quarters from which birds come and their flight, declare that to hear a single Crow is an evil omen at a wedding. Since the Owl is an enemy of the Crow and at night has designs Owl upon the Crow's eggs, the Crow by day does the same to her, knowing that at that time the Owl's sight is feeble.

3.10 Nature has made the Hedgehog prudent and experienced in providing for its own wants. Thus, since it needs food to last a whole year, and since every season does not yield produce, it rolls among fig-crates (they say), and such dried figs as are pierced — a great number become fixed upon its prickles — it quietly removes, and after laying up a store, keeps them and can draw from its nest when it is impossible to obtain food out of doors.

3.11 It is a fact that the fiercest of animals will, when the need arises, lay aside their natural savagery and be peaceful and gently disposed towards those that can be of service to them. For instance, the Crocodile swims with its jaws open; accordingly leeches fall into them and cause it pain. Knowing this it needs the Egyptian Plover as doctor. For when it is infested with leeches, it moves to the bank and opens its jaws to face the sun. Whereupon the Egyptian Plover inserts its beak and draws out the aforesaid creatures, while the Crocodile endures this service and remains motionless. So the bird gets a feast of leeches, while the Crocodile is benefited and reckons the fact that it has not injured it as the bird's fee.

3.12 The inhabitants of Thessaly, of Illyria, and of Lemnos regard Jackdaws as benefactors and have decreed that they be fed at the public expense, seeing that Jackdaws make away with the eggs and destroy the young of the locusts which ruin the crops of the aforesaid people. The clouds of locusts are in fact considerably reduced and the season's produce of these people remains undamaged.

3.13 Cranes have their birthplace in Thrace, which is the most wintry and the coldest region that I know of. Well, they love the country of their birth, but they love themselves too; so they devote part of their time to their ancestral haunts and part to their own preservation. In summer they remain in their country, but in mid-autumn they leave for Egypt, Libya, and Ethiopia, appearing to know the map of the earth, the disposition of the winds, and the variations of the seasons. And after spending a winter like spring, when again conditions are becoming tolerably settled and the sky is calm, they return. To lead their flight they appoint those that have already had experience of the journey; these would naturally be the older birds, and they select others of the same age to bring up the rear, while the young ones are ranged in their midst. Having waited for a fair and favouring wind from behind, and using it as an escort to speed them forward, they then form their order of flight into an acute-angled triangle, in order that as they encounter the air they may cleave it with the least difficulty, and so hold on their way. This then is how Cranes spend their summer and winter. (But mankind regards as marvellous the Persian king's comprehension of temperature, and harps on Susa and Ecbatana and the repeated stories of the Persian's journeyings to and fro.) When however the Cranes observe an eagle bearing down upon them, they form a circle and in a bellying mass threaten him with attack; and he retires. Resting their bills upon each other's tail-feathers they form in a sense a continuous chain of flight, and sweeten their labour as they repose gently one upon another. And in some distant land . . . when they light upon some water-spring they rest for the night and sleep, while three or four

mount guard for all the others; and in order to avoid falling asleep during their watch they stand on one leg, but with the other held up they clutch a stone firmly and securely in their claws. Their object is that, if they should inadvertently drop off to sleep, the stone should fall and wake them with the sound.

Now the stone which a Crane swallows to give itself ballast is a touchstone for gold when regurgitated by the Crane after it has, so to say, come to anchor and reached land.

3.14 If a pilot observes on the high seas a flock of Cranes turning and flying back, he realises that they have refrained from advancing further owing to the assault of a contrary wind. And taught, as you might say, by the birds he sails home again and preserves his vessel. So the pilot's art, being a lesson and a discipline first acquired by these birds, has been handed on to mankind.

3.15 In cities Pigeons congregate with human beings; they are extremely tame and swarm about one's feet; but in lonely places they flee away and cannot endure human beings. For it is crowds that give them courage, and they are well aware that they will be unmolested. Where however there are bird-catchers, nets, and schemes to take them, 'they dwell' no more 'without fear,' to quote what Euripides says of those same birds.

3.16 When Partridges are about to lay they make themselves what is called a 'threshing-floor' (*i.e.*, nest) out of dry twigs. It is plaited, hollow, and well-suited for sitting in. They pour in dust and construct as it were a soft bed; they enter and after screening themselves over with dry twigs so as to avoid being seen by birds of prey and by human hunters, they lay their eggs in complete tranquillity. Next, they do not entrust their eggs to the same place but to some other, emigrating as it were, because they are afraid that they may perhaps be detected. And when they hatch their young they impart heat to them, being callow, and warm them with their wings, enveloping them in their feathers, as it might be swaddling-clothes. They do not however wash them, but render them more sleek by putting dust on them.

If a Partridge sees someone approaching with evil intent against itself and its young, it thereupon rolls about in front of the hunter's feet and fills him with the hope of seizing it as it moves this way and that. And the man bends down to catch his prey, but it eludes him. Meantime the young ones slip away and get some distance ahead. So when the Partridge is aware of this, it takes courage and releases the bird-catcher from his fruitless occupation by flying off, leaving the man gaping. Then when the mother-bird is secure and advantageously placed, she calls her chicks, and they recognising her voice flutter towards her.

The Partridge when about to lay her eggs endeavours to hide from her mate for fear that he may crush them, because he is lustful and tries to prevent the mother from devoting her time to rearing her young. So incontinent a creature is the Partridge. When the females leave the males and brood their eggs, the male birds of set purpose provoke one another to anger and deal and receive the most violent blows; and the vanquished bird gets trodden, the victor performing unsparingly, until he in his turn is vanquished and is caught in like clutches.

3.17 Euripides says that jealousy is an accursed thing. It seems that there are certain animals in which this quality resides. For instance, the Gecko, according to Theophrastus, when it has sloughed its skin, turns and makes away with it by swallowing it. It seems that the slough of this creature is a remedy for epilepsy. And the Deer too, knowing that its right horn serves many purposes, goes so far as to bury it and secrete it out of jealousy lest anyone should benefit thereby. The Mare also knows

that with the birth of a foal she is producing love-spells; and that is why the moment the foal is born, the Mare bites off the piece of flesh on its forehead. Men call it 'mare's-frenzy.' And wizards maintain that such things produce and excite impulses to unrestrained sexual intercourse and a lecherous passion. So the Mare does not wish men to have any of this spell, as though she grudged them a boon beyond compare. And is it not so?

3.18 Leonidas of Byzantium asserts that there occurs in the Red Sea a fish of exactly the same size as a full-grown goby: it has neither eyes nor mouth after the manner of fishes, but grows gills and a kind of head, so far as one can guess, though its form is not perfectly developed. But lower down beneath its stomach is a slightly indented depression which emits the colour of an emerald; and this, they say, is both its eye and its mouth. But anyone who eats it has fished to his own undoing. And this is how he is destroyed: the man who has eaten it swells up; then his stomach bursts and he dies. But the fish itself when caught pays for it, for first, when it is out of the water, it swells, and if one touches it, it swells even more; while if one continues to handle it, it turns to corruption and becomes quite translucent, like a man with dropsy, and finally bursts. If however one is prepared to return it still alive to the sea, it swims on the surface like an inflated bladder. Leonidas says that in consequence of this property men call it the 'inflater.'

3.19 The Seal, I am told, vomits up the curdled milk from its stomach so that epileptics may not be cured thereby. Upon my word the Seal is indeed a malignant creature.

3.20 Pelicans that live in rivers take in mussels and then swallow them, and when they have warmed them deep within the recesses of their belly, they disgorge them. Now the mussels open under the influence of the heat, just like the shells of things when cooked, and the Pelicans scoop out the flesh and make a meal. So too Sea-mews, as Eudemus observes, lift snails into the air and carry them high up and then dash them violently upon the rocks.

3.21 Eudemus records how on mount Pangaeus in Thrace a Bear came upon a Lion's lair which was unguarded and slew the Lion's cubs, they being small and unable to protect themselves. But when the father and mother returned from hunting somewhere and saw their young ones slaughtered, they were naturally filled with grief, and set upon the Bear. She in terror ran up a tree as fast as her legs could carry her and sat there trying to escape their fell design. But as they came there with the intention of wreaking vengeance upon the murderer, the Lioness did not relax her watch but sat down beneath the tree-trunk, lying in wait and gazing upward with a look that meant blood. Meantime the Lion in anguish and distraught with grief roamed the mountains and came upon a woodcutter. The man was terrified and dropped his axe, but the animal fawned upon him and reaching upwards greeted him as well as it could, stroking his face with its tongue. And the man took courage, while the Lion, wrapping its tail around him, led him on and would not permit him to leave the axe but signified with its paw that he was to pick it up. But since the man failed to understand, the Lion took it in its mouth and offered it to him; the man followed and the Lion led him to the lair. As soon as the Lioness saw him she too came up and began to fawn upon him with a piteous expression as she looked up at the Bear. So the man grasped their meaning and guessing that they had been somehow injured by the Bear, began to fell the tree with all the strength of his hands. And the tree was overturned and the Bear brought down and the Lions tore her to pieces. As for the man, the Lion brought him back untouched and unscathed to the spot where it first met him and restored him to his original task of cutting wood.

3.22 A battle between two animals of Egypt, the Asp and the Ichneumon. . . . The Ichneumon does not attack his adversary without deliberation or rashly, but like a man fortifying himself with all his weapons, rolls in the mud and covers himself with a hard coating, thereby obtaining, it seems, an adequate and impenetrable defence. But if he is at a loss for mud, he washes himself in water and plunges still wet into deep sand — a device which secures his protection in difficult circumstances — and goes forth to battle. But the tip of his nose, which is sensitive and somewhat exposed to the bite of the Asp, he protects by bending back his tail, thereby blocking the approach to it. If however the Asp can reach it, the snake kills its adversary; otherwise it plies its fangs against the mud in vain, while the Ichneumon on the other hand makes a sudden dash, seizes the Asp by the neck, and strangles it. And the victory goes to the one that gets in first.

3.23 When their parents have grown old, Storks tend them voluntarily and with studied care; yet there is no law of man that bids them do so; the cause of their actions is Nature. And the same birds love their offspring too. Here is the proof: when the full-grown bird is in want of food to give to its still unfledged and tender chicks, some accident having occasioned a shortage, the Stork disgorges its food of yesterday and feeds its young. And I am told that Herons do the same, and Pelicans also.

I learn further that Storks migrate along with Cranes and all together avoid the winter. But when the season of frost is over and both Storks and Cranes return to their own homes, each kind recognises its own nests, as men do their own houses. Alexander of Myndus asserts that when they reach old age they pass to the islands of Ocean and are transformed into human shape, and that this is a reward for their filial piety towards their parents, since, if I am not mistaken, the gods especially desire to hold up there if nowhere else a human model of piety and uprightness, for in no other country under the sun could such a race continue to exist. This is in my opinion no fairy-tale, otherwise what was Alexander's design in relating such marvels when he had nothing to gain from it? Anyhow it would have ill become an intelligent man to sacrifice truth to falsehood, be the gain never so great, still less if he was going to fall into an opponent's grasp, from which act nothing whatsoever was to be gained.

3.24 Whenever there is plenty of mud the Swallow brings it in her claws and builds her nest. If however mud is lacking, as Aristotle says, she souses herself in water and plunging into dust befouls her feathers. Then when the mud has stuck to her all over, she scrapes it off by degrees with her beak and constructs her proposed dwelling. And as her young are tender and unfledged, she knows full well that if she lets them rest on bare twigs, they will suffer and be in pain. Accordingly she settles on the backs of sheep, plucks some wool, and with it makes their bed soft for her offspring.

3.25 The mother Swallow trains her young ones to be just by carefully distributing food in equal portions. So she does not bring one meal for all, because she is not able to do so, but brings small objects and a few at a time; she feeds the first-born first, after it the second, thirdly her third offspring, proceeding as far as the fifth in the same way; for the Swallow neither conceives nor hatches more than five. She herself only consumes as much food as she can obtain in the nest, that is, anything that is dropped beside it. Her young are slow to open their eyes, in the same way as puppies. But she collects and brings a herb, and they by degrees gain their sight; then after remaining quiet for a while, when able to fly, they leave the nest to seek for food. Men long to possess this herb but have not yet obtained their desire.

3.26 Among birds Hoopoes are the most savage; and in my opinion it is due to the recollection of their former existence as human beings and more especially from their hatred of the female sex, that



they build their nests in desolate regions and on high rocks; and to prevent human beings from getting near their young they smear their nests not with mud but with human excrement, and by dint of its disgusting and evil smell they repel and keep away the creature that is their enemy.

It happened that this bird had raised a family in the deserted part of a fortress, in the cleft of a stone that had split with age. So the guardian of the fortress, observing the young birds inside, smeared the hole over with mud. When the Hoopoe returned and saw itself excluded, it fetched a herb and applied it to the mud. The mud was dissolved; the bird reached its young, and then flew off to get food. So once again the man smeared the spot over, and the bird by means of the same herb opened the hole. And the same thing happened a third time. Therefore the guardian of the fortress, seeing what was done, himself gathered the herb and used it not for the same purpose; instead he laid open treasures that were none of his.

3.27 The Peloponnese does not breed Lions, and Homer (as you would expect) with his trained intelligence realising the fact, says in singing of Artemis and her hunting there that she passes over Taygetus and Erymanthus And since these mountains are destitute of Lions he was quite right not to mention them.

3.28 There occurs in the Red Sea a fish, and, so far as I know, the people there have given it the name of *Perseus*. And the Greeks call it so, and the Arabians in like manner with the Greeks. For they too call Perseus the son of Zeus, and it is after him that they declare the fish is named. Its size is that of the largest anthias; in appearance it is like a basse; its nose is somewhat hooked, and it is dappled with rings as it were of gold round its body, and these rings begin at the head at right angles to it and cease at the belly. It is armed with large teeth set close. It is said to surpass other fish in the strength and power of its body, neither is it wanting in courage. How to fish for it and how to catch it I have explained elsewhere.

3.29 The Pinna is a marine creature and belongs to the class of bivalves. It opens by parting the shells that enclose it, and extends a small piece of its flesh like a bait to fish that swim by. The Crab however remains by its side, sharing its food and its feeding-ground. So when some fish comes swimming up, the Crab gives the Pinna a gentle prick, whereat the Pinna opens its shell wider and admits the head of the approaching fish — for it lowers its head to feed — and eats it.

3.30 It seems after all fitting that an educated man should be acquainted with these facts as well. The Cuckoo is extremely clever and most adroit at devising ingenious solutions to difficulties. For the bird is conscious that it cannot brood and hatch eggs because of the cold nature of its bodily constitution, so they say. Therefore, when it lays its eggs, it neither builds itself a nest nor nurses its young, but watches until birds that have nestlings are flown and abroad, enters the strange lodging, and there lays its eggs. The rascal does not however assail the nests of all birds, only those of the lark, the ring-dove, the greenfinch, and the pappus, knowing as it does that these birds lay eggs resembling its own. And if the nests are empty, it will not go near them, but if they contain eggs, then it mixes its own with them. But if the eggs of the other bird are numerous, it rolls them out and destroys them and leaves its own behind, their resemblance making it impossible to know them apart and detect them. And the aforesaid birds hatch the eggs which are none of theirs. But when the Cuckoo's young have grown strong and are conscious of their bastardy, they fly away and resort to their parent. For directly they are fledged they are recognised as alien and are grievously ill-treated.

The Cuckoo is seen only at one season, and that the best, of the year. For it is actually visible from the beginning of spring until the rising of the Dog-star; after that it withdraws from the sight of man.

3.31 The Lion dreads a Cock, and the Basilisk too, they say, goes in fear of the same bird at the sight of one it shudders, and at the sound of its crowing it is seized with convulsions and dies. This is why travellers in Libya, which is the nurse of such monsters, in fear of the aforesaid Basilisk take with them a Cock as companion and partner of their journey to protect themselves from so terrible an infliction.

3.32 Crete is exceedingly hostile to wolves and reptiles; and I learn from Theophrastus that there are places on Macedonian Olympus where wolves do not go. Goats in Cephallenia go without drinking for six months. Among the Budini, they say, you will not see a white sheep: they are all black.

It seems that one peculiarity that distinguishes animals consists in this: some bite and inject poison from a fang, while others are given to striking, and having struck also inject a like deadly substance.

3.33 The Libyan Asp, I am told, blinds the sight of the man who faces its breath. But the other kind does not indeed blind but kills at once.

It is said that the Cows of Epirus give a most copious supply of milk, and the Goats of Scyros a far more generous yield than any other goats. And there are Goats in Egypt that produce quintuplets, while most produce twins. The Nile is said to be the cause of this, as the water it provides is extremely progenitive. For that reason shepherds who like fine flocks and devote much care to them have a device for drawing as much water as is possible from the Nile for their herds, especially for animals that are barren.

3.34 They say that a horn was brought from the Indies to Ptolemy II, and it held three *amphorae*. Imagine an ox that could produce a horn of that size.

3.35 You would never hear the same note from all Partridges, but they vary. At Athens for instance those on the far side of the deme Corydallus emit one note, those on this side another. What names these notes have Theophrastus will tell us. But in Boeotia and on the opposite shore of Euboea they have the same note and, as it were, the same language. In Cyrene the Frogs are completely dumb; in Macedonia, the Pigs; and there is also a kind of Cicada that is dumb.

3.36 There is a kind of Spider which they call the 'Grape-spider,' either because it is dark and does in fact resemble a grape in a bunch — it has a somewhat spherical appearance — or for some other reason. It occurs in Libya and has short legs; it has a mouth in the middle of its belly, and can kill in a twinkling.

3.37 In Seriphus you will never hear the Frogs croaking at all. If however you transport them elsewhere, they emit a piercing and most harsh sound. On mount Pierus in Thessaly there is a lake; it is not perennial but is created in winter by the waters which flow together into it. Now if one throws Frogs into it they become silent, though vocal elsewhere. Touching the Seriphian Frogs the people of Seriphus boast that Perseus arrived from his contest with the Gorgon after covering an immense distance, and being naturally fatigued rested by the lake side and lay down wishing to sleep. The Frogs however worried the hero with their croaking and interrupted his slumbers. But Perseus prayed to his father to silence the Frogs. His father gave ear and to gratify his son condemned the Frogs there to everlasting silence. Theophrastus however upsets the story and relieves the Seriphians of their imposture by asserting that it is the coldness of the water that causes the aforesaid Frogs to be dumb.

3.38 In moist places and where the air is excessively damp Cocks do not crow, according to Theophrastus. And the lake at Pheneus produces no fish. It is because Cicadas are constitutionally cold that, when warmed by the sun, they sing, says the same writer.

3.39 It seems that the Goatsucker is the most audacious of creatures, for it despises small birds but assails goats with the utmost violence, and more than that, it flies to their udders and sucks out the milk without any fear of vengeance from the goatherd, although it makes the basest return for being filled with milk, for it makes the dug 'blind' and staunches its flow.

3.40 Many people sing the praises of the son of Arete, the sister of Aristippus, as being taught by his mother. Aristotle says that he has with his own eyes seen the young of the Nightingale being instructed by their mother how to sing. It seems that the Nightingale passionately loves its freedom, and for that reason when a mature bird is caught and confined in a cage, it refrains from song and takes vengeance on the birdcatcher for its enslavement by silence. Consequently men who have had this experience let them go when they are older and do their best to catch the young.

3.41 India produces horses with one horn, they say, and the same country fosters asses with a single horn. And from these horns they make drinking-vessels, and if anyone puts a deadly poison in them and a man drinks, the plot will do him no harm. For it seems that the horn both of the horse and of the ass is an antidote to the poison.

3.42 The Purple Coot is the most beautiful and the most appropriately named of creatures, and it delights to dust itself, and it also bathes just as pigeons do. But it does not devote itself to the dusting-place or to the bath until it has walked a certain number of paces to satisfy itself. It cannot bear being seen feeding, and for that reason it retires and eats in concealment. It is violent in its jealousy and keeps a close watch on the mated female birds, and if it discovers the mistress of its house to be adulterous, it strangles itself. It does not fly high. Yet men take pleasure in it and tend it with care and consideration. And apparently it is either a pet in a sumptuous and opulent household, or else it is admitted into a temple and roams unconfined, moving about as a sacred creature within the precinct.

The Peacock on the contrary, which is a beautiful bird, is killed and eaten by voluptuaries. The feathers of this bird are a decoration, though its body is of little or no account. But I never heard of anyone killing a Purple Coot for a meal, not Callias nor Ctesippus the Athenians, not Lucullus nor Hortensius the Romans. I have named but a few out of many who were luxurious and insatiate in other ways but especially where their bellies were concerned.

3.43 When the Raven on reaching old age can no longer feed its young, it offers itself as their food; and they eat their father. And this is alleged to be the origin of the proverb which says 'A bad egg of a bad raven.'

3.44 Ringdoves are celebrated as the most continent of birds. For instance, when once the male and the female have paired and are, so to say, of one mind to wed, they cling to one another and are continent, and neither bird would touch a strange bed. If however they cast amorous glances at other birds, the rest gather round them and the male is torn to pieces by those of his own sex, the female by the females. This then is the law of continence which extends to doves and remains unchanged, except that they do not put to death both birds: when they kill the male they take compassion on the female and leave her unharmed; and she goes about, a widow.

3.45 Aristotle says that male Pigeons share the birth-pangs of the females, and if they wander from the nest the males will push and drive them in; and when they have laid their eggs the males will force them to brood them. But the male birds also keep the chicks warm and help the females to feed them, according to the same writer. And to prevent the chicks from being underfed the parents begin by giving them saline earth, so that when they have tasted it, they then readily eat the rest of their food. It would seem that there is a treaty of peace between Pigeons and such others as are birds of prey, but they are said to live in fear of sea-eagles and falcons. But their method of dealing with hawks is a tale worth hearing. When the hawk, which is accustomed to soar high in the air, gives chase, the Pigeons glide and sink lower and attempt to reduce their flight. When attacked however by some bird which by nature flies at a lower level than they, the Pigeons mount up and travel through the sky, and flying overhead they have no fear, because the other cannot harry them from above.

3.46 An Indian trainer finding a young white Elephant took and reared it during its early years; he gradually tamed it and used to ride upon it and grew fond of his chattel, which returned his affection and recompensed him for his fostering care. Now the king of the Indies hearing of this, asked to be given the animal. But the trainer in his affection was jealous and even overcome with grief at the thought of another man being its master, and declined to give it up; and so, mounting the Elephant, he went off into the desert. The king in his indignation despatched men to take the Elephant away and at the same time to bring the Indian to judgment. When they arrived they attempted to apply force. So the man struck at them from his mount, and the beast helped to defend its master as he was being injured. Such was the beginning of the affair. But when the Indian was wounded and fell, the Elephant bestrode its keeper after the manner of armed men covering a comrade with their shields, slew many of the attackers, and put the remainder to flight. Then, winding its trunk round its keeper, it raised him and brought him to its stable and stayed by his side, as one trusty friend might do to another, thus showing its kindly nature. Wicked men, for ever busy (?) about the table and the clash of frying-pans and dancing to your lunch, but traitors in the hour of danger, in whose mouth the word 'Friendship' is vain and of no effect.

3.47 In the name of Zeus our father, permit me to ask the tragic dramatists and their predecessors, the inventors of fables, what they mean by showering such a flood of ignorance upon the son of Laius who consummated that disastrous union with his mother; and upon Telephus who, without indeed attempting union, lay with his mother and would have done the same as Oedipus, had not a serpent sent by the gods kept them apart, when Nature allows unreasoning animals to perceive by mere contact the nature of this union, with no need for tokens nor for the presence of the man who exposed Oedipus on Cithaeron.

The Camel, for instance, would never couple with its mother. Now the keeper of a herd of camels covered up a female as far as possible, hiding all but its parts, and then drove the son to its mother. The beast, all unwitting, in its eagerness to copulate, did the deed, then realised what it had done. It bit and trampled on the man who was the cause of its unlawful union, and kneeling on him put him to an agonising death, and then threw itself over a precipice. And here Oedipus was ill-advised in not killing himself but blinding his eyes; in not realising how to escape from his calamities when he might have made away with himself instead of cursing his house and his family; and finally in seeking by an irremediable calamity to remedy calamities already past.

## Book 4

4.1 Partridges are the most incontinent of birds; that is the reason for their passionate love of the female birds and for their constant enslavement to lust. So those that rear fighting Partridges, when they egg them on to battle with one another, make the female stand each by her mate, as they have found this to be a device for countering any cowardice or reluctance to fight. For the Partridge that is defeated cannot endure to show himself either to his loved one or to his spouse. He will sooner die under the blows than turn away from his adversary and dare in his disgrace to look upon her whose good opinion he courts.

The Cretans also have taken this view regarding Cretan lovers. For I have heard that a Cretan lover, who had beside other qualities that of a fine soldier, had as his favourite a boy of good birth, conspicuous for his beauty, of manly spirit, excellently fitted by nature to imbibe the noblest principles, though on account of his youth he was not yet called to arms. (I have elsewhere given the name of the lover and of the beautiful boy.) Now the Cretans say that the young man did acts of valour in the fight, but when the enemy's massed line pressed him hard, he stumbled over a dead body that lay there and was thrown down. Whereupon one of the enemy who was nearest, in his eagerness was about to strike him in the back. But the man turned and exclaimed 'Do not deal me a shameful and cowardly blow, but strike me in front, in the breast, in order that my loved one may not judge me guilty of cowardice and refrain from laying out my dead body: he could not bear to go near one who so disgraces himself.'

There is nothing wonderful in a man being ashamed to appear a coward, but that a Partridge should have some feeling of shame, this is a truly impressive gift of Nature. But Aristodemus the timid, and Cleonymus who threw away his shield, and Pisander the craven, had no reverence for their country or for their wives or for their children.

4.2 At Eryx in Sicily there is a festival which not only the people of Eryx but everybody throughout the whole of Sicily as well call the 'Festival of the Embarkation.' And the reason why the festival is so called is this: they say that during these days Aphrodite sets out thence for Libya. They adduce in support of their belief the following circumstance. There is there an immense multitude of Pigeons. Now these disappear, and the people of Eryx assert that they have gone as an escort to the goddess, for they speak of Pigeons as 'pets of Aphrodite,' and so everybody believes them to be. But after nine days one bird of conspicuous beauty is seen flying in from the sea which brings it from Libya: it is not like the other Pigeons in a flock but is rose-coloured, just as Anacreon of Teos describes Aphrodite, styling her somewhere 'roseate.' And the bird might also be compared to gold, for this too is like the same goddess of whom Homer sings as 'golden'. And after the bird follow the other Pigeons in clouds, and again there is a festal gathering for the people of Eryx, the 'Festival of the Return'; the name is derived from the event.

4.3 The Wolf and the she-Wolf feed together, likewise the Horse and the Mare; the Lion and the Lioness however do not, for the Lioness and the Lion do not follow the same track either hunting or when drinking. And the reason is that both derive confidence from their bodily strength, so that neither has need of the other, as older writers assert.

4.4 Wolves are not easily delivered of their young, only after twelve days and twelve nights, for the people of Delos maintain that this was the length of time that it took Leto to travel from the

Hyperboreans to Delos.

4.5 Animals hostile to one another: the Tortoise and the Partridge; the Stork and the Corncrake to the Sea-gull; the Shearwater and the Heron to the Sea-mew. The Crested Lark feels enmity towards the Goldfinch; the Turtle-dove disagrees with the Pyrallis; the Kite too and the Raven are enemies; the Siren and the Circe; the Circe and the Falcon have been found to be at variance not only in the matter of sex but in their nature.

The Sea-perch is the most lecherous of fishes. In Pheneus in Laconia one may hear tell of white Ants.

4.6 Men skilled in the breeding and care of Horses agree that Horses are most fond of marshy ground, meadows, and wind-swept spots. Hence we find Homer, who in my opinion had a remarkable knowledge of such matters, saying somewhere

'For him three thousand mares grazed along the water-meadow.'

And horse-keepers frequently testify to Mares being Mares impregnated by the wind, and to their galloping by the against the south or the north wind. And the same poet knew this when he said 'Of them was Boreas enamoured as they pastured.' Aristotle too, borrowing (as I think) from him, said that they rush away in frenzy straight in the face of the aforesaid winds.

4.7 I am told that the King of the Scythians (his name I know but suppress, for I have nothing to gain by it) possessed a mare remarkable for every excellence which is expected of horses and for which they are displayed; and that he possessed also a foal of this same mare which surpassed all others in its excellence. Being unable to find either another worthy mate for the mare or another mare fit to be impregnated by the foal, he therefore put the two together for that purpose. They caressed each other in various ways and were friendly disposed, but refused to couple. So as the animals were too clever for the Scythian's scheme, he blindfolded both mare and foal with cloths, and they accomplished the act so contrary to law and morality. But when the pair realised what they had done, they atoned for their impious deed by death and threw themselves over a precipice.

4.8 Eudemus records how a groom fell in love with a young mare, the finest of the herd, as it might have been a beautiful girl, the loveliest of all thereabouts. And at first he restrained himself, but finally dared to consummate a strange union. Now the mare had a foal, and a fine one, and when it saw what was happening it was pained, just as though its mother were being tyrannically treated by her master, and it leaped upon the man and killed him. And it even went so far as to watch where he was buried, went to the place, dug up the corpse, and outraged it by inflicting every kind of injury.

4.9 The majority of Fishes are eager for sexual intercourse throughout the springtime, and withdraw for choice to the Black Sea, for it contains caverns and resting-places which are Nature's gift to Fishes. Besides, its waters are free from the savage creatures which the sea breeds. Only dolphins roam there, and they are small and feeble. Moreover it is devoid of octopuses; it produces no crabs and does not breed lobsters: these are the bane of small fishes.

4.10 I am informed that when the new moon begins to appear, Elephants by some natural and unexplained act of intelligence pluck fresh branches from the forest where they feed and then raise them aloft and look upwards at the goddess, waving the branches gently to and fro, as though they

were offering her in a sense a suppliant's olive-branch in the hope that she will prove kindly and benevolent to them.

4.11 I have heard that Mares are the only animals which when pregnant allow the male to have intercourse with them. For Mares are exceedingly lustful, and that is why strict censors call lecherous women 'mares.'

4.12 Partridges while still in the egg and confined by the shell that has formed around them do not wait for their parents to hatch them out, but alone and unaided, like house-breakers, peck through the eggs, peep out, and then lever themselves up, and then after cracking the egg-shell begin at once to run. And if half the shell is clinging to their tail they shake it off and cast it from them; and they hunt for food and dart about at great speed.

4.13 Partridges that utter clear, musical tones are confident in their vocal skill. So too the fighting birds which compete feel certain that when captured they will not be regarded as merely fit for sacrifice. And that is why when caught they struggle less against their pursuers in order to avoid capture. But the rest, and especially the partridges of Cirrha, conscious that they possess neither strength nor ability to sing, and knowing full well that if caught they will furnish a meal for their captors, do their utmost, prompted by some natural intelligence, to render themselves unfit for eating. And they abstain from other food which delights and fattens them and feed most eagerly upon garlic. Hence those who are already aware of these facts have willingly agreed that they should be immune from pursuit. Whereas a man who has not previously chanced to hunt them, if he catches and cooks them, has wasted his time and his pains over them, when he finds their flesh disgusting.

4.14 The Marten is an evil creature, and an evil creature is the Snake. And so when a Marten means to fight with a Snake, it chews some rue beforehand and then goes out boldly to battle, as though fortified and armed. The reason is that to a Snake rue is utterly abhorrent.

4.15 The Wolf when gorged to satiety will not thereafter taste the least morsel. For his belly is distended, his tongue swells, his mouth is blocked, and he is gentle as a lamb to meet, and would have no designs on man or beast, even were he to walk through the middle of a flock. Gradually however and little by little his tongue shrinks and resumes its former shape, and he becomes once more a wolf.

4.16 Cockerels all tread a newcomer to the flock, and tame Partridges do the same to the latest arrival as yet untamed. And Partridges even requite their own parents by decoying those that are free and wild, acting in this respect just like pigeons. Now this is the way in which the Partridge draws them to him and displays the arts of a Siren to allure others. He stands uttering his cry, and his tune conveys a challenge, provoking the wild bird to fight; and he stands in ambush by the springe. Then the cock of the wild birds answers back and advances to do battle on behalf of his covey. So the tame bird withdraws, pretending to be afraid, while the other advances vaunting as though he were already victorious, is caught in the snare, and is captured. Now if it is a cock bird that falls into the trap, his companions attempt to bring help to the captive; but if it is a hen, one here and another there beats the captive for allowing her lust to bring her into slavery.

And here is a point that I will not omit, for it deserves attention. If the decoy-bird is a hen, the wild hens, in order to prevent the cock from falling into the trap, counter the challenge with their cries and rescue the cock that is about to be trapped, for he is glad to stay with those who are his mates and more numerous, seeming to be drawn by some spell that is in truth love.

4.17 The Hedgehog too is believed to be one of the animals that show spite. Thus, when it is caught it immediately makes water on its skin, so rendering it unfit for use, though it is thought to serve many purposes. The Lynx too hides its urine, for when it hardens it turns to stone and is suitable for engraving, and is one of the aids to female adornment, so they say.

4.18 If a Lion eats a Lion's-bane, it dies. And insects are destroyed if one drops oil on them. And perfumes are the death of Vultures. Beetles you will extirpate if you scatter roses on them.

4.19 The Hounds of India are, reckoned as wild animals; they are exceedingly strong and fierce-tempered, and are the largest dogs in the world. All other animals they despise; but an Indian Hound will engage with a lion and resist its onslaught, barking against its roar and giving bite for bite. Only after much worrying and wounding of the lion is the Hound finally overcome; and even a lion might be overcome by an Indian Hound, for once it has bitten, the Hound holds fast with might and main. And even if you take a sword and cut off a Hound's leg, it has no thought, in spite of its pain, of relaxing its bite, but though its leg has been cut off, only when dead does it let go and lie still, forced by death to desist.

What more I have learned I will recount elsewhere.

4.20 Men and Dogs are the only creatures that belch after they have eaten their fill. A man's heart is attached to his left breast, but in other creatures it is fixed in the centre of the thorax. Among birds of prey there is not one that drinks or makes water, or even gathers in flocks with others of its kind.

4.21 There is in India a wild beast, powerful, daring, as big as the largest lion, of a red colour like cinnabar, shaggy like a dog, and in the language of India it is called *Martichoras*. Its face however is not that of a wild beast but of a man, and it has three rows of teeth set in its upper jaw and three in the lower; these are exceedingly sharp and larger than the fangs of a hound. Its ears also resemble a man's, except that they are larger and shaggy; its eyes are blue-grey and they too are like a man's, but its feet and claws, you must know, are those of a lion. To the end of its tail is attached the sting of a scorpion, and this might be over a cubit in length; and the tail has stings at intervals on either side. But the tip of the tail gives a fatal sting to anyone who encounters it, and death is immediate. If one pursues the beast it lets fly its stings, like arrows, sideways, and it can shoot a great distance; and when it discharges its stings straight ahead it bends its tail back; if however it shoots in a backward direction, as the Sacae do, then it stretches its tail to its full extent. Any creature that the missile hits it kills; the elephant alone it does not kill. These stings which it shoots are a foot long and the thickness of a bulrush. Now Ctesias asserts (and he says that the Indians confirm his words) that in the places where those stings have been let fly others spring up, so that this evil produces a crop. And according to the same writer the Mantichore for choice devours human beings; indeed it will slaughter a great number; and it lies in wait not for a single man but would set upon two or even three men, and alone overcomes even that number. All other animals it defeats: the lion alone it can never bring down. That this creature takes special delight in gorging human flesh its very name testifies, for in the Greek language it means man-eater, and its name is derived from its activities. Like the stag it is extremely swift.

Now the Indians hunt the young of these animals while they are still without stings in their tails, which they then crush with a stone to prevent them from growing stings. The sound of their voice is as near as possible that of a trumpet.



Ctesias declares that he has actually seen this animal in Persia (it had been brought from India as a present to the Persian King) — if Ctesias is to be regarded as a sufficient authority on such matters. At any rate after hearing of the peculiarities of this animal, one must pay heed to the historian of Cnidos.

4.22 The Sea-scolopendra bursts, they say, when a man spits in its face.

4.23 If one crushes the fruit of a Willow-tree and gives it to animals to drink, they suffer no injury at all, rather they thrive on it. But if a man drinks it, his semen loses its procreative strength. And I fancy that Homer had explored the secrets of nature when he wrote in his verses 'and willows that lose their fruit,' and that he was making a cryptic allusion to this. And if a man drink Hemlock, he dies from the congealing and chilling of his blood, whereas a hog can gorge itself with Hemlock and remain in good health.

4.24 The Indians have difficulty in capturing a full-grown Elephant. So they resort to the swamps by a river and then capture the young ones. For the Elephant delights in moist places where the ground is soft, and loves the water, and prefers to pass his time in these haunts: he is, so to say, a creature of the swamps. So having caught them while tender and docile, they look after them, pandering to their appetites, grooming their bodies, and using soothing words — for the Elephants understand the speech of the natives — and, in a word, they foster them like children and bestow care upon them, instructing them in various ways. And the baby Elephants learn to obey.

4.25 In the threshing season when the oxen move round the threshing-floor and the space is filled with sheaves, in order to prevent the oxen from eating the ears, the men smear their nostrils with dung — a device which they have hit upon and which serves them well. For this animal is so disgusted at the aforesaid smearing that it would not touch any food, even though it were assailed with the fiercest hunger.

4.26 This is the way in which the Indians hunt Hares and Foxes: they have no need of hounds for the chase, but they catch the young of Eagles, Ravens, and Kites also, rear them, and teach them how to hunt. This is their method of instruction: to a tame Hare or to a domesticated Fox they attach a piece of meat, and then let them run; and having sent the birds in pursuit, they allow them to pick off the meat. The birds give chase at full speed, and if they catch the Hare or the Fox, they have the meat as a reward for the capture: it is for them a highly attractive bait. When therefore they have perfected the birds' skill at hunting, the Indians let them loose after mountain Hares and wild Foxes. And the birds, in expectation of their accustomed feed, whenever one of these animals appears, fly after it, seize it in a trice, and bring it back to their masters, as Ctesias tells us. And from the same source we learn also that in place of the meat which has hitherto been attached, the entrails of the animals they have caught provide a meal.

4.27 I have heard that the Indian animal the Gryphon is a quadruped like a lion; that it has claws of enormous strength and that they resemble those of a lion. Men commonly report that it is winged and that the feathers along its back are black, and those on its front are red, while the actual wings are neither but are white. And Ctesias records that its neck is variegated with feathers of a dark blue; that it has a beak like an eagle's, and a head too, just as artists portray it in pictures and sculpture. Its eyes, he says, are like fire. It builds its lair among the mountains, and although it is not possible to capture the full-grown animal, they do take the young ones. And the people of Bactria, who are neighbours of the Indians, say that the Gryphons guard the gold in those parts; that they dig it up and build their nests with it, and that the Indians carry off any that falls from them. The Indians however

deny that they guard the aforesaid gold, for the Gryphons have no need of it (and if that is what they say, then I at any rate think that they speak the truth), but that they themselves come to collect the gold, while the Gryphons fearing for their young ones fight with the invaders. They engage too with other beasts and overcome them without difficulty, but they will not face the lion or the elephant. Accordingly the natives, dreading the strength of these animals, do not set out in quest of the gold by day, but arrive by night, for at that season they are less likely to be detected. Now the region where the Gryphons live and where the gold is mined is a dreary wilderness. And the seekers after the aforesaid substance arrive, a thousand or two strong, armed and bringing spades and sacks; and watching for a moonless night they begin to dig. Now if they contrive to elude the Gryphons they reap a double advantage, for they not only escape with their lives but they also take home their freight, and when those who have acquired a special skill in the smelting of gold have refined it, they possess immense wealth to requite them for the dangers described above. If however they are caught in the act, they are lost. And they return home, I am told, after an interval of three or four years.

4.28 The head of a Turtle, after it has been cut off, sees and closes its eyes if one brings one's hand near; and it would still bite if you brought your hand too near. It has eyes that flash a long way off, for the pupils are the purest white and very conspicuous, and when removed are set in gold and necklaces. For that reason they are greatly admired by women. These Turtles, I learn, are natives of what is commonly called the 'Red Sea.'

4.29 The Cock, they say, at moonrise becomes possessed and jumps about. Never would a sunrise pass unnoticed by him, but at that hour he excels himself in crowing. And I learn that the Cock is the favourite bird of Leto. The reason is, they say, that he was at her side when she was so happily brought to bed of twins. That is why to this very day a Cock is at hand when women are in travail, and is believed somehow to promote an easy delivery.

If the Hen dies the Cock himself sits on the eggs and hatches his own eggs in silence, for then for some strange and inexplicable reason, I must say, he does not crow. I fancy that he is conscious that he is then doing the work of a female and not of a male.

A Cock that has been defeated in battle and in a struggle with another will not crow, for his spirit is depressed and he hides himself in shame. On the other hand if he is victorious, he is proud and holds his head high and appears exultant. Here too is a most astonishing trait, I think. As he passes beneath a doorway, no matter how high, the Cock lowers his head — a most pretentious action, done apparently to protect his comb.

4.30 Jackdaws are devoted to their own species; and this it is that often causes their destruction. And it happens in this way. The man who intends to hunt Jackdaws adopts the following plan. In the place where he knows that they feed and where he sees them gathering in flocks he arranges basins full of oil. Now the oil is transparent and the bird is inquisitive, and it comes and perches on the rim of the vessel, bends down, and sees its own reflexion, and supposing it to be another Jackdaw, makes haste to go down to it. So it descends, flaps its wings, and scatters the oil all over itself. Being quite unable to fly up again the bird remains, so to speak, fettered, though neither net nor trap nor snare is there.

4.31 The Elephant has what some call protruding tusks, what others call horns. On each foot he has five toes; their growth is just visible although they are not separate; and that is why he is ill-adapted for swimming. His hind legs are shorter than his forelegs; his paps are close to his armpits: he has a

proboscis which is far more serviceable than a hand, and his tongue is short; his gall-bladder is said to be not near the liver but close to the intestines. I am informed that the duration of the Elephant's pregnancy is two years, although others maintain that it is not so long, but only eighteen months. It bears a young one as big as a one-year-old calf, which pulls at the dug with its mouth. When it is possessed with a desire to copulate and is burning with passion, it will dash at a wall and overturn it, will bend palm-trees by butting its forehead against them, as rams do. It drinks water not when clear and pure but when it has dirtied and stirred it up a little. But it sleeps standing upright, for it finds the act of lying down and of rising troublesome. The Elephant reaches its prime at the age of sixty, though its life extends to two hundred years. But it cannot endure cold.

4.32 It is worth while learning the nature of the flocks that belong to the Indians. I have heard that their Goats and their Sheep are larger than the largest asses, and that each one gives birth to quadruplets; anyhow no Goat or Sheep in India would ever give birth to less than three at a time. The Sheep have tails reaching down to their feet, while the Goats have tails of such length as all but touch the ground. The shepherds cut off the tails of the ewes which are good for breeding so that the rams may mount them, and they press oil out of the fat contained in them. In the rams' tails also they make an incision and extract the fat and sew them up again. And the cut joins up once more and all traces of it disappear.

4.33 Alexander of Myndus declares that the Chameleon annoys snakes and makes them go hungry in this way. Taking in its teeth a piece of wood, broad and solid, it turns about and goes to face its enemy. But the Snake is unable to seize it as its jaws cannot compass the width of the wood; and so the Snake goes without a meal as far as the Chameleon is concerned, for although it may bite the rest of its body it gains nothing, since the Chameleon has a solid hide and cares not at all for the fangs of the Snake.

4.34 The neck of a Lion consists of a single bone and not of a number of vertebrae. And if a man cuts through the bones of a Lion fire leaps forth. But they are devoid of marrow, nor are they hollow like tubes. There is no season of the year in which it abstains from coupling, and the Lioness is pregnant for two months. Five times does she give birth, at the first birth to five cubs, at the second to four, after that to three, after that to two, and finally to one. The cubs when new-born are small and, like puppies, blind, and they begin to walk when they have completed two months from birth. But the account which says that they scratch through the womb is a fable. To encounter a Lion when famished is dangerous, but when he has eaten his fill he is extremely gentle; they even say that at that time he is playful. A Lion will never turn his back and flee, but withdraws, looking you straight in the face, and by degrees. But when he begins to age he visits folds and huts and spots where shepherds lodge in caves; which, is to be expected, because he no longer has the spirit for hunting on the mountains. He has a horror of fire. Any Lion that inclines to roundness and a compact figure, and that has too shaggy a mane, appears to be lacking in spirit and daring; whereas the beast that attains a good length and has a straight mane is regarded as bolder and fiercer. Possessing a ravenous appetite he will, they say, devour and swallow whole limbs. So when he has taken his fill of them he will often not eat for the space of three days until his former meal has been gradually absorbed and digested. He drinks but little.

4.35 A domesticated Ox will never forget the man who strikes and chastises him, but he remembers and takes his revenge even after a long interval. For being under the yoke and in a certain degree confined, he is like a prisoner and keeps still; but when he is let out he has often kicked and broken some limb of his herdsman; often too he has put passion into his horns and has fallen upon a man

and killed him. After that he is gentle to others and goes quietly to the fold, for he is not savage towards those against whom he has no ground for anger.

4.36 Historians say that India is rich in drugs and remarkably prolific of medicinal plants, of which some save life and rescue from danger men who have been brought to death's door through the bites of noxious creatures (and there are many such in India); while other drugs are swift to kill and destroy; and to this class might be assigned the drug which comes from the Purple Snake. Now this snake appears to be a span long; its colour is like the deepest purple, but its head they describe as white and not purple, and not just white, but whiter even than snow or milk. But this snake has no fangs and is found in the hottest regions of India, and though it is quite incapable of biting — for which reason you might pronounce it to be tame and gentle — yet if it vomits upon anyone (so I am told), be it man or animal, the entire limb inevitably putrefies. Therefore when caught men hang it up by the tail, and naturally it has its head hanging down, looking at the ground. And below the creature's mouth they place a bronze vessel, into which there ooze drops from its mouth; and the liquid sets and congeals, and if you saw it you would say that it was gum from an alnaond-tree. So when the snake is dead they remove the vessel and substitute another, also of bronze; and again from the dead body there flows a liquid serum which looks like water. This they leave for three days, and it too sets; but there will be a difference in colour between the two, for the latter is a deep black and the former the colour of amber. Now if you give a man a piece of this no bigger than a sesame seed, dropping it into his wine or his food, first he will be seized with convulsions of the utmost violence; next, his eyes squint and his brain dissolves and drips through his nostrils, and he dies a most pitiable death. And if he takes a smaller dose of the poison, there is no escape for him hereafter, for in time he dies. If however you administer some of the black matter which has flowed from the snake when dead, again a piece the size of a sesame seed, the man's body begins to suppurate, a wasting sickness overtakes him, and within a year he is carried off by consumption. But there are many whose lives have been prolonged for as much as two years, while little by little they died.

4.37 Although the Ostrich lays a number of eggs it does not hatch all of them but sets aside the sterile ones and sits upon those that are fertile; and from these it hatches its young, giving them the other, rejected eggs to eat. And if one chases the Ostrich it does not venture to fly but spreads its wings and runs. And if it is in danger of being captured it slings the stones that come in its way backwards with its feet.

4.38 Sparrows, conscious that their weakness is due to the small size of their bodies, build their nests upon those twigs of branches which are strong enough to support them, and so generally escape the machinations of bird-catchers who cannot climb the branch: it is too slender to bear them.

4.39 Foxes pass all bounds in their mischievousness and trickery. When they observe a thriving Wasps' nest they turn their back upon it and avoid the hole so as to protect themselves from being stung. But their tail, which is very bushy and long, they let down into the hole and shake up the Wasps. And these fasten on the thick hairs. But when they are entangled in them the Foxes beat their tail against a tree or fence or stone wall, and the Wasps are killed by the blows. Then the Foxes return to the same spot, collect the remaining Wasps, and kill them as they did the first lot. When they know that they will have peace and be free from stings they put down their heads and eat up the combs, with nothing to disturb them and no need to look out for stings.

4.40 A Dog's skull has no suture. Running, they say, makes a Dog more lustful. In old age a Dog's teeth are blunt and turn black. He is so keen-scented that he will never touch the roasted flesh of a

dog, be it bewitched by the subtlest and craftiest of rich sauces. Now there are three diseases which fall to the lot of a Dog and no more, viz. dog-quinsey, rabies, and gout, while mankind has an infinite number. Everything that is bitten by a mad Dog dies. If a Dog once gets gout you will hardly see him recover his strength. The life of a Dog at its longest is fourteen years; so Argus, the dog of Odysseus, and the story about him look like a playful tale of Homer's.

4.41 The following species of bird belongs to the very smallest of those in India. They build their nests on high mountains and among what are called 'rugged' rocks. These tiny birds are the size of a partridge's egg, and you must know that they are orange-coloured. The Indians are accustomed to call the bird in their language *dikairon*, but the Greeks, so I am informed, *dikaion*. If a man take of its droppings a quantity the size of a millet-seed dissolved in his drink, he is dead by the evening. But his death is like a very pleasant and painless sleep, and such as poets are fond of describing as 'limb-relaxing' and 'gentle.' For death too may be free from pain, and for that reason most welcome to those who desire it. The Indians accordingly do their utmost to obtain possession of it, for they regard it as in fact 'causing them to forget their troubles'. And so the Indian King includes this also among the costly presents which he sends to the Persian King, who receives it and values it above all the rest and stores it away, to counteract and to remedy ills past curing, should necessity arise. But there is not another soul in Persia save the King and the King's mother who possesses it. So let us compare the Indian and Egyptian drug and see which of the two was to be preferred. On the one hand the Egyptian drug repelled and suppressed sorrow for a day, whereas the Indian drug caused a man to forget his troubles for ever. The former was the gift of a woman, the latter of a bird or else of Nature, which mysteriously releases men from a truly intolerable bondage through the aforesaid agency. And the Indians are fortunate in possessing it so that they can free themselves from this world's prison whenever they wish.

4.42 The bird called 'Francolin' (Aristophanes mentions it in his comedy of the *Birds* proclaims and sings its own name as loudly as it can. And they say that Guinea-fowls, as they are called, do the same and testify to their kinship with Meleager the son of Oeneus in the clearest tones. The legend goes that all the women who were related to the son of Oeneus dissolved into unassuageable tears and sorrow past bearing, and mourned for him and found no cure for their sorrow. So the gods in pity allowed them to change their shape into these birds; and the semblance and seed of their ancient grief have sunk into them so that to this day they raise a strain to Meleager and even sing of how they are his kin.

So then all who reverence the gods would never lay hands on one of these birds for the sake of food. And the reason of this is known to the inhabitants of the island of Leros and can be learned from other sources.

4.43 Here are more facts that I have learned touching Ants. So indefatigable, so ready to work are they, without making excuses, without any base plea for release, without alleging reasons that are a cloak for indolence, that not even at night when the moon is full do they idle and take holiday, but stick to their occupation.

Look at you men — devising endless pretexts and excuses for idling! What need is there to detail and pour out the full number of these occasions? Proclaimed as holidays are the Dionysia, the Lenaea, the Festival of Pots, Causeway Day; go to Sparta, and there are others: others again at Thebes: and an endless number in every city, some in a foreign, others in a Greek city.

4.44 In Egypt the Cats, the Ichneumons, the Crocodiles, and moreover the Hawks afford evidence that kind animal nature is not altogether intractable, but that when well-treated they are good at remembering kindness. They are caught by pandering to their appetites, and when this has rendered them tame they remain thereafter perfectly gentle: they would never set upon their benefactors once they have been freed from their congenial and natural temper. Man however, a creature endowed with reason, credited with understanding, gifted with a sense of honour, supposed capable of blushing, can become the bitter enemy of a friend and for some trifling and casual reason blurt out confidences to betray the very man who trusted him.

4.45 Eudemus has a story to fill one with amazement, and this is the story he tells. A young hunter who was able to spend his life among the wildest of animals, after they had been trained from the day when they were young cubs, had living with him and sharing each other's food a Dog, a Bear, and a Lion. And for a time, Eudemus says, they lived in peace and mutual amity. But it happened one day that the Dog was playing with the Bear, fawning upon it and teasing it, when the Bear became unwontedly savage, fell upon the Dog, and with its claws ripped the poor creature's belly open and tore him to pieces. The Lion, says the writer, was indignant at what had occurred and seemed to detest the Bear's implacability and want of affection: it was smitten with grief for the Dog as for a companion, and being filled with righteous anger, punished the Bear by treating it exactly as the Bear had treated the Dog. Now Homer says

'So good a thing it is that when a man dies a son should be left.'

And Nature seems to show that there is an advantage, my dear Homer, in leaving a friend behind to avenge one. Something of the same kind, we believe, occurred with Zeno and Cleanthes, if there is some truth in what we hear.

4.46 (i). In India are born insects about the size of beetles, and they are red. On seeing them for the first time you might compare them to vermilion. They have very long legs and are soft to the touch. They flourish on those trees which produce amber, and feed upon the fruit of the same. And the Indians hunt them and crush them and with their bodies dye their crimson cloaks and their tunics beneath and everything else that they wish to convert and stain to that colour. Garments of this description are even brought to the Persian king, and their beauty excites the admiration of the Persians, and indeed when set against their native garments far surpasses them and amazes people, according to Ctesias, because the colour is even stronger and more brilliant than the much-vaunted wares of Sardes.

(ii). And in the same part of India as the beetles, are born the 'Dog-heads,' as they are called — a name which they owe to their physical appearance and nature. For the rest they are of human shape and go about clothed in the skins of beasts; and they are upright and injure no man; and though they have no speech they howl; yet they understand the Indian language. Wild animals are their food, and they catch them with the utmost ease, for they are exceedingly swift of foot; and when they have caught them they kill and cook them, not over a fire but by exposing them to the sun's heat after they have shredded them into pieces. They also keep goats and sheep, and while their food is the flesh of wild beasts, their drink is the milk of the animals they keep. I have mentioned them along with brute beasts, as is logical, for their speech is inarticulate, unintelligible, and not that of man.

4.47 Golden Oriole is the name of a bird which declines to build its nest with anything but comfrey, Oriole as it is called. Comfrey is a root which is hard to find and hard to dig up. For bedding it lays down hairs and wool. *Chloris* is the name given to the hen, but the cock-bird they call *chlorion*, and

it is clever at getting a livelihood; it is quick to learn anything whatsoever, and will patiently endure the ordeal of learning when in captivity. In the winter season you will not see it abroad and free, but at the occurrence of the summer solstice, that is when it will appear. As soon as Arcturus has risen the bird returns to its native haunts whence it came to us.

4.48 When once a Bull has been provoked to anger and is threatening violence with his horns and rushing angry on with irresistible speed, the herdsman cannot control him, fear cannot check him, nor anything else; only a man may bring him to a halt and stay his onrush if he tie a scarf round his own right knee and face the Bull.

4.49 The Leopard has five toes on its fore-paws and four on its hind-paws. But the female is stronger than the male. If it unwittingly eats what is called 'leopard's-choke' (this is a herb), it licks some human excrement and preserves its life.

4.50 Horses, they say, have no lower eyelashes, so that Apelles of Ephesus incurred blame for ignoring this peculiarity in his picture of a horse. But others assert that it was not Apelles who was charged with this fault but Micon, a man of great skill in depicting this animal, although on this one point he made a mistake.

4.51 They say that the Gadfly is like a fly of the largest size; it is robust and compact and has a strong sting attached to its body and emits a buzzing sound. The Horsefly on the other hand is like the dog-fly, as it is called, but though its buzz is louder than the Gadfly its sting is smaller.

4.52 I have learned that in India are born Wild Asses as big as horses. All their body is white except for the head, which approaches purple, while their eyes give off a dark blue colour. They have a horn on their forehead as much as a cubit and a half long; the lower part of the horn is white, the upper part is crimson, while the middle is jet-black. From these variegated horns, I am told, the Indians drink, but not all, only the most eminent Indians, and round them at intervals they lay rings of gold, as though they were decorating the beautiful arm of a statue with bracelets. And they say that a man who has drunk from this horn knows not, and is free from, incurable diseases: he will never be seized with convulsions nor with the sacred sickness, as it is called, nor be destroyed by poisons. Moreover if he has previously drunk some deadly stuff, he vomits it up and is restored to health.

It is believed that Asses, both the tame and the wild kind, all the world over and all other beasts with uncloven hoofs are without knucklebones and without gall in the liver; whereas those horned Asses of India, Ctesias says, have knucklebones and are not without gall. Their knucklebones are said to be black, and if ground down are black inside as well. And these animals are far swifter than any ass or even than any horse or any deer. They begin to run, it is true, at a gentle pace, but gradually gather strength until to pursue them is, in the language of poetry, to chase the unattainable.

When the dam gives birth and leads her new-born colts about, the sires herd with, and look after, them. And these Asses frequent the most desolate plains in India. So when the Indians go to hunt them, the Asses allow their colts, still tender and young, to pasture in their rear, while they themselves fight on their behalf and join battle with the horsemen and strike them with their horns. Now the strength of these horns is such that nothing can withstand their blows, but everything gives way and snaps or, it may be, is shattered and rendered useless. They have in the past even struck at the ribs of a horse, ripped it open, and disembowelled it. For that reason the horsemen dread coming to close quarters with them, since the penalty for so doing is a most lamentable death, and both they and their horses are killed. They can kick fearfully too. Moreover their bite goes so deep that they

tear away everything that they have grasped. A full-grown Ass one would never capture alive: they are shot with javelins and arrows, and when dead the Indians strip them of their horns, which, as I said, they decorate. But the flesh of Indian Asses is uneatable, the reason being that it is naturally exceedingly bitter.

4.53 Eudemus declares that animals though devoid of reason have a natural instinct for numbers, even though untaught, and adduces as evidence this animal from Libya. Its name he does not mention, but what he says is this. Whatever it catches it divides into eleven portions; ten of these it eats, but the eleventh it leaves (it is worth considering for whose benefit, from what cause, and with what intent) as a kind of first-fruits or tithe, so to say. Hence one's amazement at this self-taught skill is justifiable: a brute beast understands 1, 2, and the following numbers; then think of all the instruction, all the whippings a human being needs if he is to learn these things well and truly — or often, if he is not to learn them.

4.54 The Egyptians assert (and scholars do not lend an indifferent ear to what they say) that in a certain district of Egypt which they name after Heracles the son of Zeus, a good-looking boy, as Egyptian boys go, who herded geese, was beloved and even admired by a female Asp. It would keep company with its favourite and warn him in a dream as he slept of the plots that another savage creature, its fellow you might say, was hatching against him: the male Asp was attempting his life, being as it were jealous of the boy on account of its wedded bride. And the boy would listen and obey and be on his guard. Now Homer allowed a horse to speak, and Nature, who according to Euripides 'recks nought of laws', did the same to an Asp.

4.55 I have heard that Camels live for fifty years, but I have ascertained that those from Bactria live as much as twice that number. The males which are used in battle, the Bactrians castrate, thereby ridding them of their violent and intemperate disposition while preserving their strength. But in the case of the females they cauterize those parts which inflame them to lust.

4.56 Eudemus asserts that a Seal fell in love with a man whose habit was to dive for sponges, and that it would emerge from the sea and consort with him where there was a rocky cavern. Now this man was the ugliest of his fellows, but in the eyes of the Seal the handsomest. Perhaps there is nothing to wonder at, for even human beings have frequently loved the less beautiful of their kind, being quite unaffected by the best-looking and paying no attention to them.

4.57 Aristotle says that when a man has been bitten by a Water-snake he at once exhales a most foul odour, so much so that nobody can come near him. He says also that forgetfulness descends upon the bitten man and a thick mist upon his eyes, and that madness ensues and a violent trembling, and that after three days he dies.

4.58 You must know that the Oenas (Rock-dove) is a bird and not, as some maintain, a vine. And Aristotle says that it is larger than a ring-dove but smaller than a pigeon. In Sparta too, I hear, there are men called Oenadotherae (Rock-dove-catchers).

The Circe may be said to differ from the falcon not only in sex but in its nature too.

4.59 'Blue-fowl' is its name; it is a bird; its ways are apart from man; it hates to linger in cities or to lodge in a house; it even avoids lingering in fields or where there are cottages and huts belonging to man; it likes desolate places and delights in mountain peaks and precipitous crags. It has no love



even for the mainland or for pleasant islands, but for Scyros and any equally dreary, barren spot, generally destitute of human beings.

4.60 Chaffinches, it seems, are cleverer than man at predicting the future. For instance, they can tell when winter is coming, and they take the most careful precautions against an impending snowfall, and for fear of being overtaken they flee to the woodlands where the thick foliage affords them, as you might say, an asylum.

## Book 5

5.1 They say that the country about Parium and its neighbour Cyzicus are inhabited by birds black in appearance; from their shape you would say that they were hawks. But they do not touch flesh, are temperate in their appetite, and for them seeds are a sufficient meal. And when late autumn sets in, a flock of these birds (they call them *Memnons*) resort to the land round Ilium, making straight for the tomb of Memnon. And the people who still inhabit the Troad assert that there is a tomb there dedicated to Memnon the son of Eos (Dawn); and since the actual dead body was borne through the air by his mother from the midst of the carnage to Susa (celebrated for this reason as 'Memnonian'), where it was awarded a becoming burial, the monument in the Troad is called after him to no purpose. And so year by year the birds named after the aforesaid hero arrive and separate themselves into hostile factions and fight violently until half their number are killed, when the victors depart and return whence they came. How this all comes to pass and for what reason, I have at the moment no leisure to speculate, nor yet to track down the mysteries of Nature. This however I will mention. The aforesaid birds engage in this contest around the tomb of the son of Eos and Tithonus year after year, whereas the Greeks held but one contest in honour of Pelias and of Amarynceus, and even of Patroclus, and of Achilles the adversary of Memnon.

5.2 They say that the Owl is not found at all in Crete, and moreover that if it is introduced from owls abroad it dies. So it seems that Euripides uncritically represented Polyeidus as seeing this bird and thereby conjecturing that he would discover the dead son of Minos. And I myself have ascertained that the Cretan histories, beside the facts already told, relate in verse and prose how Crete received from Zeus a boon — seeing that the island had nursed him and effected that famous concealment of him — namely that it should be free of all noxious creatures born to do harm, that it should neither produce them nor support them if introduced from abroad. And the island proves how potent this boon was, for it produces none of the aforesaid creatures. But if a man by way of trying and testing the extent of Zeus's favour imports one of these alien creatures, it has but to touch the soil and it dies. Accordingly snake-hunters from and to the neighbouring Libya use devices of this kind. These charmers of venomous reptiles tame a great number and bring them for people to wonder at, and with them they import a load of soil from Libya sufficient for their need. This they do by way of precaution, to prevent the snakes from meeting their death. With this object, when they arrive at the aforesaid island they do not put down their snakes until they have laid a bed of the imported soil. This done, they collect crowds and fill the unintelligent majority with amazement. Now as long as each snake remains coiled up and settled in its place, or rises up without however crossing the limit of its own native dust, so long it lives. If however it strays on to the alien soil which is strange and hostile to it, it dies, and naturally so. For if the will of Zeus did not fail of effect in the case of Thetis,

and would not fail in the case of any other person, far less, I think, will it prove ineffectual when his own nurse is concerned.

5.3 The river Indus is devoid of savage creatures; the only thing that is born in it is a worm, so they say, in appearance like those that are engendered in, and feed upon, timber. But these creatures attain to a length of as much as seven cubits, though one might find specimens both larger and smaller. Their bulk is such that a ten-year-old boy could hardly encircle it with his arms. A single tooth is attached to the upper jaw, another to the lower, and both are square and about eighteen inches long; and such is the strength of their teeth that they can crush with the greatest ease anything that they get between them, be it stone, be it animal, tame or wild. During the daytime they live at the bottom of the river, wallowing in the mud and slime; for that reason they are not to be seen. But at night they emerge on to the land, and whatever they encounter, whether horse or ox or ass, they crush and then drag down to their haunts and eat it in the river, devouring every member of the animal excepting its paunch. If however they are assailed by hunger during the day as well, and should a camel or an ox be drinking on the bank, they slide furtively up and seizing firmly upon its lips, haul it along with the utmost force and drag it by sheer strength into the water, where they feast upon it. Each one is covered with a hide two fingers thick. The following means have been devised for hunting and capturing them. Men let down a stout, strong hook attached to an iron chain, and to this they fasten a rope of white flax weighing a talent, and they wrap wool round both chain and rope to prevent the worm biting through them. On the hook they fix a lamb or a kid, and then let them sink in the river. As many as thirty men hold on to the rope and each of them has a javelin ready to hurl and a sword at his side. Wooden clubs are placed handy, should they need to deal blows, and these are of cornelwood and very hard. Then when the worm is secured on the hook and has swallowed the bait, the men haul, and having captured it and killed it, hang it up in the sun for thirty days. From the body there drips a thick oil into earthenware vessels; and each worm yields up to ten *cotylae*. This oil they seal and bring to the Indian King; no one else is permitted to have so much as a drop. The rest of the carcase is of no use. Now the oil has this power: should you wish to burn a pile of wood and to scatter the embers, pour on a *cotyle* and you will set it alight without previously applying a spark. And if you want to burn a man or an animal, pour some oil over him and at once he is set on fire. With this, they say, the Indian King even takes cities that have risen against him; he does not wait for battering-rams or penthouses or any other siege-engines, for he burns them down and captures them. He fills earthen vessels, each holding one *cotyle*, with oil, seals them, and slings them from above against the gates. When the vessels touch the embrasures they are dashed into fragments; the oil oozes down; fire pours over the doors, and nothing can quench it. And it burns weapons and fighting men, so tremendous is its force. It is however allayed and put out if piles of rubbish are poured over it.

Such is the account given by Ctesias of Cnidus.

5.4 The Porpoise is a creature like the dolphin, and it too has milk. Its colour is not black but resembles very deep blue. It breathes not through gills but through a blow-hole, for that is the name they give to its air-passage. The Porpoise frequents Pontus and the sea round about, and rarely strays beyond its familiar haunts.

5.5 When a Hen has defeated a cock-bird in battle it gives itself airs from sheer delight and lets down wattles, not however to the same extent as cocks, although it does so and is filled with pride and struts more grandly.

5.6 The Dolphin is believed to love its own kin, and here is the evidence. Aenus is a city in Thrace. Now it happened that a Dolphin was captured and wounded, not indeed fatally, but the captive was still able to live. So when its blood flowed the dolphins which had not been caught saw this and came thronging into the harbour and leaping about and were plainly bent on some mischief. At this the people of Aenus took fright and let their captive go, and the dolphins, escorting as it might be some kinsman, departed.

But a human being will hardly attend or give a thought to a relative, be it man or woman, in misfortune.

5.7 In Egypt, says Eudemus, a Monkey was being pursued and Cats were the pursuers. So the Monkey fled as fast as he could and made straight for a tree. But the Cats also ran up very swiftly, for they cling to the bark and can also climb trees. But as he was going to be caught, being one against many, he leapt from the trunk and with his paws seized the end of an overhanging branch high up and clung to it for a long while. And since the Cats could no longer get at him, they descended to go after other prey. So the Monkey was saved by his own considerable exertions, and it was to himself, as was proper, that he owed the reward for his rescue.

5.8 Aristotle says that the soil of Astypalaea is unfriendly to snakes; just as, according to the same writer, Rhenea is to martens. No crow can go up on to the Acropolis at Athens. Say that Elis is the mother of mules, and you say what is false.

5.9 There is an agreement between the people of Rhegium and of Locris that they shall have access and to, and shall cultivate, one another's lands. But the Cicadas of the two territories do not agree to this and are not of one and the same mind, for you will find the Locrian Cicada is completely silent in Rhegium, and the Cicada from Rhegium is absolutely voiceless among the Locrians. What the cause of such an exchange may be neither I nor anyone else, save an idle boaster, can say. Only to Nature, you men of Rhegium and of Locris, is it known. At any rate there is a river separating the territories of Rhegium and Locris, and the banks are not so much as a hundred feet apart; for all that the Cicadas of neither side fly across it. And in Cephalonia there is a river which occasions both fertility and barrenness among Cicadas.

5.10 Bees when forsaken by their King, who is at once gentle and inoffensive and also stingless, give chase and pursue after the deserter from the post of rule. They track him down in some mysterious way and detect him by means of the smell he diffuses and bring him back to his kingdom of their own free will, indeed eagerly, for they admire his disposition. But the Athenians drove out Pisistratus, and the Syracusans Dionysius, and other states their rulers, since they were tyrants and broke the laws and could not exhibit the art of kingship which consists in loving one's fellow-men and protecting one's subjects.

5.11 It is the concern of the King Bee that his hive should be regulated in the following manner. To some bees he assigns the bringing of water, to others the fashioning of honeycombs within the hive, while a third lot must go abroad to gather food. But after a time they exchange duties in a precisely determined rotation. As to the King himself, it is enough for him to take thought and to legislate for the matters that I mentioned above after the manner of great rulers to whom philosophers like to ascribe simultaneously the qualities of a citizen and of a king. For the rest he lives at ease and abstains from physical labour. If however it is expedient for the bees to change their dwelling, then the ruler departs, and if he happens to be still young, he leads the way and the rest follow; if however he is elderly, he is carried on his way and conveyed by other bees.

At a signal bees retire to slumber. When it seems to be time to go to sleep the King commands one bee to give the signal for going to rest. And the bee obeys and gives the word, whereupon the bees that have been buzzing till then retire to bed. Now so long as the King survives, the swarm flourishes and all disorder is suppressed. The drones gladly remain at rest in their cells, the older bees dwell in their quarters apart, the young in theirs, the King by himself, and the larvae in their own place. Their food and their excrement are in separate places. But when the King dies, disorder and anarchy fill the place; the drones produce offspring in the cells of the bees; the general confusion no longer permits the swarm to thrive, and finally the bees perish for want of a ruler.

The Bee leads a blameless life and would never touch animal food. It has no need of Pythagoras for counsellor, but flowers afford it food enough. It is in the highest degree temperate; at any rate it abhors luxury and delicate living; witness the fact that it pursues and drives away a man who has perfumed himself, as if he were some enemy who has perpetrated actions past all remedy. It recognises too a man who comes from an unchaste bed, and him also it pursues, as though he were its bitterest foe. And Bees are well-endowed with courage and are undaunted. For instance, there is not a single animal from which they flee; they are not mastered by cowardice but go to the attack. Towards those who do not trouble them or start to injure them or who do not approach the hive bent on mischief and with evil intent they show themselves peaceful and friendly; but against those who would injure them the fires of a truceless war, as the phrase goes, are kindled; and anyone who comes to plunder their honey is reckoned among their enemies. And they sting even wasps severely. And Aristotle records how Bees once finding a horseman near the hive attacked him violently and slew both him and his horse. And further, they fight with one another, and the stronger party defeats the weaker. But I learn that toads and frogs from pools, bee-eaters, and swallows defeat them, and frequently wasps do so too. Yet the victor achieves what you might call a Cadmean victory, for he comes off badly from their blows and stings, since the Bees are armed with courage no less than with stings. But Bees are not without a share of the wisdom of foresight, and Aristotle vouches for my statement thus. Some Bees came to a hive that was not theirs but a different one and proceeded to plunder the honey which did not belong to them. But the Bees which were being despoiled of their labours nevertheless remained quiet and waited patiently to see what would happen. Then, when the bee-keeper had killed the greater number of the enemy, the Bees in the hive realised that they were in fact sufficient to sustain an equal combat and emerged to strike back, and the penalty which they exacted for the robbery left nothing to cavil at.

5.12 Here is further evidence of the industry of Bees. In the coldest countries from the time when the Pleiads have set until the vernal equinox they continue at home and stay quiet in the hive, longing for the warmth and shunning the cold. But for the rest of the year they abhor indolence and repose and are good at hard labour. And you would never see a Bee idling unless it were during the season when their limbs are numb with cold.

5.13 Bees practise geometry and produce their graceful figures and beautiful conformations without any theory or rules of art, without what the learned call a 'compass.' And when their numbers increase and the swarm thrives they send out colonies just as the largest and most populous cities do. Now the Bee knows when there is rain that threatens to persist, and when there will be a gale. But if surprised by a wind, you will see every Bee carrying a pebble between the tips of its feet by way of ballast. What the divine Plato says of cicadas and their love of song and music one might equally say of the choir of Bees. For instance, when they frolic and roam abroad, then the bee-keepers make a clashing sound, melodious and rhythmical, and the Bees are attracted as by a Siren and come back again to their own haunts.

5.14 (i). In the island of Gyarus Aristotle says that there are Rats and that they actually eat iron ore. And Amyntas says that the Rats of Teredon (this is in Babylonia) adopt the same food.

(ii). I am told that on Latmus in Caria there are Scorpions which inflict a fatal sting on their fellow-countrymen; strangers however they sting lightly and just enough to produce an itching sensation. This in my opinion is a boon bestowed upon visitors by Zeus, Protector of the Stranger.

5.15 Wasps also are subject to a King, but not, as men are, to a despot. Witness the fact that their Kings also are stingless. And their subjects have a law that they shall construct their combs for them. But although the rulers are twice the size of a subject, yet they are gentle and of a nature incapable of doing an injury either willingly or unwillingly. Who then would not detest the Dionysii of Sicily, Clearchus of Heraclea, Apollodorus the oppressor of Cassandrea, Nabis the scourge of Sparta, if they trusted in the sword, when the King Wasps trust to their lack of sting and to their gentle nature?

5.16 This is what Wasps that are armed with a sting are said to do. When they observe a dead viper they swoop upon it and draw poison into their sting. It is from this source, I fancy, that men have acquired that knowledge, and no good knowledge either. And Homer is witness to the fact when he says in the *Odyssey*

'Seeking a deadly drug, that he might have wherewithal to smear his bronze-tipped arrows.'

Or again, to be sure (if one can trust the story), just as Heracles dipped his arrows in the venom of the Hydra, so do Wasps dip and sharpen their sting.

5.17 Let not the Fly lack the honour of a mention in this record of mine, for it too is Nature's handiwork.

The Flies of Pisa at the season of the Olympic festival make peace, so to speak, both with visitors and with the local inhabitants. At any rate, despite the multitude of sacrifices, the quantity of blood shed and of flesh hung out, the Flies disappear of their own free will and cross to the opposite bank of the Alpheus. And they appear to differ not a whit from the women there, except that their behaviour shows them to be more self-restrained than the women. For while women are excluded by the rules of training and of continence at that season, the Flies of their own free will abstain from the sacrifices and absent themselves while the ceremonies are in progress and during the recognised period of the Games. 'Then was the assembly ended' and the Flies come home, just like exiles whom a decree has allowed to return, and once again they stream into Elis.

5.18 The Great Sea Perch is a marine creature, and if you were to catch and cut it up, you would not then and there see it dead, but it retains the power of movement, and for a considerable time. All through the winter it likes to remain at home in its caverns, and its favourite resorts are near the land.

5.19 The Wolf does not dare to close with a Bull to meet it face to face; he is afraid of its horns and avoids their points. So he makes a feint of attacking the Bull frontally; he does not however attack but gives the appearance of being about to try; and then when the Bull makes a rush at him, the Wolf slips aside and leaps on its back and clings with might and main, beast wrestling with beast. And the Wolf overpowers it and by native cunning makes good his lack of strength.

5.20 The Hake has its heart in its belly, as experts in these matters agree and inform us.

5.21 The Peacock knows that it is the most beautiful of birds; it knows too wherein its beauty resides; it prides itself on this and is haughty, and gathers confidence from the plumes which are its ornament and which inspire strangers with terror. In summertime they afford it a covering of its own, unsought, not adventitious. If, for instance, it wants to scare somebody it raises its tail-feathers and shakes them and emits a scream, and the bystanders are terrified, as though scared by the clang of a hoplite's armour. And it raises its head and nods most pompously, as though it were shaking a triple plume at one. When however it needs to cool itself it raises its feathers, inclines them in a forward direction and displays a natural shade from its own body, and wards off the fierceness of the sun's rays. But if there is a wind behind it, it gradually expands its feathers, and the breeze which streams through them, blowing gently and agreeably, enables the bird to cool itself. It knows when it has been praised, and as some handsome boy or lovely woman displays that feature which excels the rest, so does the Peacock raise its feathers in orderly succession; and it resembles a flowery meadow or a picture made beautiful by the many hues of the paint, and painters must be prepared to sweat in order to represent its special characteristics. And it proves how ungrudgingly it exhibits itself by permitting bystanders to take their fill of gazing, as it turns itself about and industriously shows off the diversity of its plumage, displaying with the utmost pride an array surpassing the garments of the Medes and the embroideries of the Persians. It is said to have been brought to Greece from foreign lands. And since for a long while it was a rarity, it used to be exhibited to men of taste for a fee, and at Athens the owners used on the first day of each month to admit men and women to study them, and they made a profit by the spectacle. They used to value the cock and the hen at ten thousand drachmas, as Antiphon says in his speech against Erasistratus. For their maintenance a double establishment and custodians and keepers are needed. Hortensius the Roman was judged to have been the first man to slaughter a Peacock for a banquet. But Alexander of Macedon was struck with amazement at the sight of these birds in India, and in his admiration of their beauty threatened the severest penalties for any man who slew one.

5.22 When Mice fall into cooling-vessels, since they cannot get out by swimming, they fasten their teeth into one another's tails, and then the first pulls the second and the second the third. In this way has Nature in her supreme wisdom taught them to combine and help one another.

5.23 This is the way in which Crocodiles lie in wait for those who draw water from the Nile: they cover themselves with driftwood and, spying through it, swim up beneath it. And the people come bringing earthen vessels or pitchers or jugs. Then, as men draw water, the creatures emerge from the driftwood, leap against the bank, and seizing them with overpowering force make a meal of them. So much for the innate wickedness and villainy of Crocodiles.

5.24 The Hare dreads Hounds, and so too does the Fox. And Hounds, I fancy, with their barking will rouse a boar from the brake, and will bring a lion to bay, and pursue a stag. Yet there is not a single bird that cares anything for a Hound, but there is peace between them. The Bustard alone is afraid of Hounds, the reason being that these birds are heavy and carry a burden of flesh about with them. Their wings do not easily lift them and carry them through the air, so they fly low along the ground, weighed down by their bulk. Hence they are frequently captured by Hounds. And since they are aware of this, whenever they hear the bark of Hounds, they run away into thickets and swamps, using these as a protection and escaping instant danger without difficulty.

5.25 The human child is slow to recognise its parents: it is taught and, one might say, compelled to look at its father, to greet its mother, and to smile upon its relatives. Whereas Lambs from the day of

their birth gambol about their dams and know what is strange and what is akin to them. They have no need to learn anything from their shepherds.

5.26 The Monkey is a most imitative creature, and any bodily action that you teach it it acquires exactly, so as to be able to display its accomplishment. For instance, it will dance, once it has learnt, and if you teach it, will play the pipe. And I myself have even seen it holding the reins, laying on the whip, and driving a chariot. And once it has learnt whatever it may be, it would never disappoint its teacher. So versatile and so adaptable a thing is Nature.

5.27 Here are further examples of the peculiar and diverse natures of animals. Theopompus reports that in the country of the Bisaltae the Hares have a double liver. According to Ister the Guinea-fowls of Leros are never injured by any bird of prey. Aristotle says that among the Neuri the Oxen have their horns on their shoulders, and Agatharcides says that in Ethiopia the Swine have horns. Sostratus asserts that all Blackbirds on Cyllene are white. Alexander of Myndus says that in Pontus the Flocks grow fat upon the bitterest wormwood. He states also that Goats born on Mimas do not drink for six months; all they do is to look towards the sea with their mouths open and to drink in the breezes from that quarter. I learn that the Goats of Illyria have a solid, not a cloven hoof. And Theophrastus has the most amazing statement that in Babylonia the fish frequently come out of the river and pasture on dry land.

5.28 Now the Purple Coot, in addition to being extremely jealous, has, I believe, this peculiarity: they say that it is devoted to its own kin and loves the company of its mates. At any rate I have heard that a Purple Coot and a Cock were reared in the same house, that they fed together, that they walked step for step, and that they dusted in the same spot. From these causes there sprang up a remarkable friendship between them. And one day on the occasion of a festival their master sacrificed the Cock and made a feast with his household. But the Purple Coot, deprived of its companion and unable to endure the loneliness, starved itself to death.

5.29 In Aegium, a city of Achaia, a good-looking boy, an Olenian by birth, of the name of Amphilochus, was loved by a Goose. Theophrastus relates this. The boy was kept under guard with exiles from Olenus in Aegium, and so the Goose used to bring him presents. In Chios Glauce, the harp-player, being a woman of extraordinary beauty, was adored by men, not that there is anything wonderful in that, but I am told that a Ram and a Goose also fell in love with her.

When Geese cross the Taurus range they go in fear of the eagles; so each of them bites on a pebble to prevent it from uttering its cry, just as though they had gagged themselves, and so they cross in silence and by these means generally slip past the eagles. The Goose, being of a very hot and fiery habit, is fond of bathing and delights in swimming, and prefers very moist fare, grass, lettuce, and all other things that generate coolness in its body. But even if it is exhausted with hunger it will not eat a bay-leaf or touch a rose-laurel either willingly or against its will, for it knows that if it eats either of them it will die.

Yet men through their unbridled appetites are the victims of plots against their food and drink. At any rate countless numbers have swallowed some bane while drinking, like Alexander, or in food, like Claudius the Roman, and Britannicus, his son. And having fallen asleep from a dose of poison, they never rose again, some having drunk it deliberately, others because they were the victims of a plot.

5.30 The Egyptian Goose owes its composite name (goose-fox) to the innate peculiarities of the two creatures. It has the appearance of a goose, but for its mischievousness it might most justly be compared to the fox. It is smaller than a goose but more courageous, and is a fierce fighter. For instance, it defends itself against an eagle, a cat, and all other animals that come against it.

5.31 The following features are peculiar to the Anati Snake. The heart has its allotted place close to the throat, the gall in the intestines; its testicles are close to the tail; the eggs which it produces are long and soft; its poison is contained in the fangs.

5.32 The Peacock (I have described the bird above) has these further innate peculiarities which are worth knowing. When three years old it begins to be pregnant and lays its eggs, and then starts to assume that many-coloured and beautiful plumage. But it does not brood upon its eggs immediately, but passes over two days. And the Peacock, like other birds, may from time to time lay a wind-egg.

5.33 When the Duck lays its eggs it lays them on land but close to a lake or shallow pool or some other watery, moist spot. And the Duckling by some mysterious instinct knows that it is incapable both of flying high in the air and of remaining on land. For this reason it leaps into the water and can swim from the moment it is hatched; it has no need to learn but dives and comes up again with great skill as though it had already been taught for some time. But the Eagle which they call the 'duck-killer' swoops upon the Duck as she swims, meaning to carry her off; but the Duck dives and vanishes, and then after swimming under water, bobs up in another place. But the Eagle is there also, and again the Duck dives; and this happens again and again. Then one of two things follows: either the Duck after a dive is drowned, or the Eagle goes off after other prey; whereupon the Duck, with nothing to fear, swims once more upon the surface.

5.34 The Swan has this advantage over men in matters of the greatest moment, for it knows when the end of its life is at hand, and, what is more, in bearing its approach with cheerfulness, it has received from Nature the noblest of gifts. For it is confident that in death there is neither pain nor sorrow. But men are afraid of what they know not, and regard death as the greatest of all ills. Now the Swan has so contented a spirit that at the very close of its life it sings and breaks out into a dirge, as it were, for itself. Even so does Euripides sing of Bellerophon, prepared like a hero of high soul for death. For example, he has portrayed him addressing his soul thus:

'Reverent wast thou ever in life towards the gods; strangers didst thou succour; nor didst thou ever grow weary towards thy friends' —

and so on. So then the Swan too intones its own funeral chant, and either by hymns to the gods or by the rehearsal of its own praises it makes provision for its departure. Socrates also testifies to the fact that it sings not from sorrow but rather from cheerfulness, for (he says) a man whose heart is vexed and sore has no leisure for song and melody.

Now death is not the only thing that the Swan faces with courage: it is not afraid of a fight. But though it will not be the first to do an injury, any more than a sober, educated man would be, yet it will not retire and give way before an aggressor. While all other birds are on terms of peace with the Swan, the Eagle has frequently attacked it, as Aristotle says, though it has never yet overcome it, but has always been defeated not only through the strength of the Swan in battle but also because in defending itself the Swan has justice on its side.



5.35 The Heron is a great eater of oysters and swallows them when closed, as pelicans swallow mussels. And the Heron warms the oysters a little in what is called its 'crop' and retains them there. Under the influence of the heat the oysters open, and the Heron becoming aware of this, disgorges the shells but retains the flesh; and it lives by consuming entire, thanks to a strong digestion, all that passes down into it.

5.36 There is a bird called *Asterias* (starling?), and in Egypt, if tamed, it understands human speech. And if anyone by way of insult calls it 'slave,' it gets angry; and if anyone calls it 'skulker,' it takes umbrage and is annoyed, as though it was being jeered at for its low birth and rebuked for its indolence.

5.37 If a man with the juice of silphium on his hands seizes the Torpedo, he avoids the pain which it inflicts. And should you attempt to draw the Great Weever from the sea with your right hand, it will not come but will fight vigorously. But if you haul it up with your left hand, it yields and is captured.

5.38 From a statement of Charmis of Massilia I learn that the Nightingale is fond of music, and even fond of fame. At any rate when it is singing to itself in lonely places, he says, its melody is simple and spontaneous. But in captivity when it has no lack of hearers it lifts up its voice, warbling and trilling its melting music. And Homer seems to me to hint as much when he says

'And as when the daughter of Pandareus, the greenwood Nightingale, sings sweet at the first oncoming of spring, as she rests amid the thick leafage of the trees, and ever varying her note pours forth her full-throated music.'

But there are those who write πολυδευκέα φωνήν, that is, 'variously imitating music,' just as ἄδευκέα signifies 'unadapted for imitating.'

5.39 Democritus asserts that the Lion alone among animals is born with its eyes open and from the hour of birth is already to some extent angry and ready to perform some spirited action. And others have observed that even when asleep the Lion moves his tail, showing, as you might expect, that he is not altogether quiescent, and that, although sleep has enveloped and enfolded him, it has not subdued him as it does all other animals. The Egyptians, they say, claim to have observed in him something of this kind, asserting that the Lion is superior to sleep and for ever awake. And I have ascertained that it is for this reason that they assign him to the sun, for, as you know, the sun is the most hard-working of the gods, being visible above the earth or pursuing his course beneath it without pause. And the Egyptians cite Homer as a witness when he speaks of the 'untiring sun'. And in addition to his strength the Lion shows intelligence. For instance, he has designs upon cattle and goes to their folds by night. Now Homer was aware of this when he said:

'Like cattle which a lion has scared, coming in the dead of night.'

And he strikes terror into them all by his strength, but seizes only one and devours it. And when he has gorged himself, he wishes to preserve the remains for another occasion, yet he is ashamed to stay and watch over them, as though he were afraid of starving from want of food. Accordingly with jaws agape he breathes upon them and trusts to his breath to guard them while he himself goes on his way. But when the other beasts arrive and realise to whom the remains upon the ground belong, they do not venture to touch them but go their way for fear of seeming to rob and diminish anything that belongs to their king. Now if the Lion chances to be lucky and has good hunting, he forgets his former prize, disregards it as being stale, and goes away. Otherwise he returns to it as to a private

store. And when he has eaten more than enough, he empties himself by lying quiet and abstaining from food, or alternatively he catches a monkey and eats some of it, voiding and emptying his belly by means of its flesh.

The Lion is after all upright and one to 'defend himself against the man who should assail him first'.

Thus, he faces his attacker and by lashing with his tail and winding it about his flanks rouses himself as though he were stimulating himself with a spur. And if a man shoot at him but miss him, he will defend himself by a fair return: he will scare the man but do him no harm. If he has been domesticated since the time when he was a cub, he is extremely gentle and agreeable to meet, and is fond of play, and will submit with good temper to any treatment to please his keeper. For instance, Hanno kept a Lion to carry his baggage; a tame Lion was the companion of Berenice and was no different from her tiring-slaves: for example, it would softly wash her face with its tongue and smooth away her wrinkles; it would share her table and eat in a sober, orderly fashion just like a man. And Onomarchus, the Tyrant of Catana, and the son of Cleomenes both had Lions with them as table-companions.

5.40 They say that the Leopard has a marvellous fragrance about it. To us it is imperceptible, though the Leopard is aware of the advantage it possesses, and other animals besides share with it this knowledge, and the Leopard catches them in the following manner. When the Leopard needs food it conceals itself in a dense thicket or in deep foliage and is invisible; it only breathes. And so fawns and gazelles and wild goats and suchlike animals are drawn by the spell, as it were, of its fragrance and come close up. Whereat the Leopard springs out and seizes its prey.

5.41 I learn that ruminants have three stomachs, and their names, I gather, are κεκρύφαλον (the second stomach, *reticulum*), ἐχλῖνον (the third stomach, many-pplies), and ἥνυστρον (the fourth stomach, *abomasum*).

Cuttle-fish and Squids feed themselves with two 'probosces.' (There is no harm in so styling them: both their use and their form induce one to do so.) And in stormy weather when there is broken surf, these creatures grip the rocks with their tentacles and cling fast as with anchors, and there they stay, safe from shock and sheltered from the waves. Later, when it grows calm, they let themselves go and are free again to swim about, having learnt what is by no means to be despised, viz., how to avoid a storm and to escape from danger.

5.42 If it is your wish to learn the names of Bees, I would not grudge you the knowledge that I have acquired. Some are called 'captains,' others 'sirens,' some again 'workers,' and others 'moulders.' And Nicander says that the Drones

... And they say that all over Cappadocia the Bees produce honey without combs, and the story goes that it is thick like oil. I am informed that at Trapezus in Pontus honey is obtained from box-trees, but that it has a heavy scent and drives healthy people out of their senses, but restores the frenzied to health. I learn that in Media honey drips from the trees, just as Euripides says that on Cithaeron sweet drops flow from the boughs. In Thrace too I have heard that honey is produced from plants. On Myconus there are no bees, and moreover if imported from outside they die.

5.43 Aristotle says that on the banks of the river Hypanis there occurs a creature that goes by the name of 'day-fly,' because it is born in the morning twilight and dies when the sun begins to set.

5.44 The Cuttle-fish has a poisonous bite and teeth that are concealed very deep within. It seems also that the Osmylus and the Octopus are given to biting. And the Octopus has a more powerful bite than the Cuttle-fish, although it emits less poison.

5.45 They say that the Wild Boar does not attack a man until he has whetted his tusks. And Homer testifies to this when he says

'Having whetted the white tusk between his curved jaws.'

And I learn that the Boar fattens himself chiefly by not washing but spending his time wallowing in the mud, drinking the turbid water, and revelling in the quiet and the darkness of his lair and in all the more inflating foods that can fill him up. And Homer appears to imply as much, for touching their wallowing and their fondness for the more muddy ponds . . . when he says 'hogs that make their bed upon the ground.' And that they fatten themselves upon turbid water ... he says

'drinking black water, which fosters the rich fat on swine.'

And that they delight in darkness he proves in the following words:

'They slumbered beneath a hollow rock under shelter from Boreas.'

And he hints at the inflating quality of their food when he says that they eat 'the satisfying acorn.' Now Homer knowing that the Boar grows thin and that his flesh wastes if he looks at the Sow, has described the Boars as sleeping in one place and the Sows in another. In Salamis if a Sow breaks in and grazes the corn when green or a field of waving corn, there is a law of the Salaminians that her teeth must be destroyed. And they say that the passage in Homer about 'a sow that consumes the crops' refers to this. Others take a different view and assert that when a Sow has tasted green corn its teeth are weakened.

5.46 It would appear that Nature has provided grass as a remedy for the wounds of Dogs. And if they are troubled with worms they get rid of them by eating 'standing' corn, as it is called. And when they need to empty both stomachs they are said to eat some grass, and as much of their food as remains undigested they vomit up, while the remainder is excreted. It is from this source that the Egyptians are said to have learnt the practice of taking purges. But Partridges, Storks, and Ring-doves, when wounded are said to chew marjoram and then to spread it on their wounds and cure their body; and they have no need at all of man's healing art.

5.47 In this matter I shall have no need of any witness from antiquity but shall narrate what I myself have seen and know.

A man captured a Lizard of the excessively green and unusually large species, and with a point made of bronze he pierced and blinded the Lizard. And after boring some very fine holes in a newly fashioned earthenware vessel so as to admit the air, but small enough to prevent the creature from escaping, he heaped some very moist earth into it and put the Lizard inside together with a certain herb, of which he did not divulge the name, and an iron ring with a bezel of lignite engraved with the figure of a lizard. After stamping nine seals upon the vessel he then covered it up, removing one seal daily for nine days. And when he had destroyed the last seal of all he opened the vessel, and I myself saw the Lizard having its sight and its eyes, which till then had been blinded, seeing perfectly

well. And we released the Lizard on the spot where it had been captured, and the man who had done these things asserted that that ring of his was good for the eyes.

5.48 It fills me with shame, you human beings, to think of the friendly relations that subsist between animals, not only those that feed together nor even those of the same species, but even between those that have no connexion through a common origin. For instance, Sheep are friends with Goats; there is friendship between Pigeon and Turtle-dove; Ringdoves and Partridges entertain friendly feelings towards one another; we have long known that the Halcyon and the Ceryl desire each other; that the Crow is friendly disposed towards the Heron, and the Sea-mew towards the Little Cormorant, as it is called, and the Shearwater towards the Kite. But there is war everlasting and without truce, so to say, between Crows and Owls. Enemies too are the Kite and the Raven, the Pyrallis and the Turtle-dove, the Brenthus and the Sea-mew, and again the Greenfinch(?) and the Turtle-dove, the Aegyptius and the Eagle, Swans and Water-snakes(?), and Lions are the enemies of Antelopes and Bulls. The bitterest hate exists between the Elephant and the Python, between the Asp and the Ichneumon, between the Blue Tit and the Ass, for directly the Ass brays the Blue Tit's eggs are smashed and the young ones are spilt, still imperfect. And so to avenge its offspring the Blue Tit leaps upon the Ass's sore places and feeds on them. The Fox detests a Falcon and the Bull a Raven, and the Buff-backed Heron the Horse. And an educated man who attends to what he hears should know that the Dolphin is at feud with the Whale, the Basse too with the Mullet, and the Moray with the Conger Eel, and so on.

5.49 When Bears have sniffed at hunters who have fallen on their face and knocked the breath out of themselves, they leave them for dead, and it seems that these creatures are disgusted by a dead body. Mice also hate those that die in their holes and lurking-places; and a Swallow too ejects a dead Swallow from its nest. Ants also, thanks to the supreme wisdom of Nature, are careful to carry away dead bodies and to cleanse their nests, for it is characteristic of brute beasts that, when one of their own species and kind has died, they speedily remove it out of sight. And Ethiopian histories, which are untainted by the pretentious plausibility of the Greeks, tell us that if one Elephant sees another lying dead, it will not pass by without drawing up some earth with its trunk and casting it upon the corpse, as though it were performing some sacred and mysterious rite on behalf of their common nature; and that to fail in this duty is to incur a curse. It is enough for it even to cast a branch upon the body; and with due respect paid to the common end of all things the Elephant goes on its way.

And there has reached us also the following story. When Elephants are dying of wounds, stricken either in battle or in hunting, they pick up any grass they may find or some of the dust at their feet, and looking upwards to the heaven, cast some of these objects in that direction and wail and cry aloud in indignation in their own language, as though they were calling the gods to witness how unjustly and how wrongfully they are suffering.

5.50 (i). By the following cases also, I think, one may recognize traits peculiar to animals. For instance, we see domestic fowls that are reared at the feet, and have experience, of horses, asses, cows, or camels, showing no fear of them. And if they are fed along with, say, a tame and gentle elephant, they are not afraid but even move about among those creatures. And cockerels even fly up on to their backs, such are their resulting courage and freedom from fear. But they are fluttered and terrified if a marten runs by. To the lowing of cattle or the braying of an ass they pay no attention; but a marten has but to chatter and they tremble. For geese, swans, and ostriches they care little or nothing, but are in terror of a hawk although it is very small. With its crowing a cock scares a lion

and is fatal to a basilisk, and yet it cannot endure cats or kites. And pigeons are not afraid at the cry of eagles and vultures, but they are at the cry of falcons and of sea-eagles.

(ii). The lamb, the kid, and every foal directly it is born goes for its dam's teats and sucks the dugs until it is full. And the parent shows no concern but stands still. Whereas all animals with parted toes, wolves, hounds, lions, leopards, lie down to give their young suck.

5.51 Nature has made animals with an immense variety of voice and of speech, as it were, even as she has men. For instance, the Scythian speaks one language, the Indian another; the Ethiopian has a natural language, so too have the Sacae; the language of Greece and that of Rome are different. And so it is with animals: each has a different way of producing the tone and the sound natural to its tongue. Thus, one roars, another lows, a third whinnies, (another) brays, yet another baas and bleats; while to some howling is customary, to others barking, and to another snarling. Screaming, whistling, hooting, singing, warbling, twittering, and countless other gifts of Nature are peculiar to different animals.

5.52 In the Egyptian countryside Asps have their holes by the Nile on either bank. Most of the time they stay round about their (lurking-places) and are as attached to them as human beings are to their own homes. But when in the summertime the river threatens to overflow, the aforesaid Asps emigrate some thirty days beforehand to districts further away from the Nile and creep into bluffs above the river, and, what is more, bring their young with them: they have received from Nature this special gift of being able to foretell the annual visitation of a river so mighty and so active, and to guard against being overtaken and destroyed by it. And at the same season turtles and crabs and crocodiles transfer their eggs to spots which the river cannot touch or reach. Hence those who come across the eggs of the aforesaid creatures calculate to what extent the Nile will rise and irrigate their land.

5.53 Hippopotamuses are nurslings of the Nile, and when the crops are ripe and the ears are yellow they do not forthwith begin to graze and eat them but pass along outside the crop and calculate what area will satisfy them; and then, having reckoned how much will be enough, they fall to, and as they fill themselves they withdraw backwards, keeping the river behind them. Now this move they have cleverly devised so that, should any farmers attack them in self-defence, they can run down into the water with complete ease, on the look out for enemies in front of them but not looking behind them.

5.54 In Mauretania Leopards do not attack monkeys with force nor with all the strength and power at their command, the reason being that the Monkeys do not face them but escape from them and run up trees and sit there on guard against the designs of the Leopards. Yet it seems that after all the Leopard is craftier than the Monkey, for such designs and traps does it contrive for the Monkeys. It comes to the place where a gathering of Monkeys is seated, throws itself down beneath a tree, lies on the ground on its back, inflates its belly, relaxes its legs, closes both eyes, and even holds its breath, and lies there like one dead. And the Monkeys looking down upon their most hated enemy, fancy it to be dead; and what they most fervently desire, that they believe. For all that, they do not as yet take courage but make an experiment, and the experiment is this: they send down one of their number whom they regard as the most fearless to test and to scrutinise the state of the Leopard. So the Monkey descends not altogether unafraid; but after running down a little way he turns back, fear causing him to retreat. And a second time he descends and having approached, withdraws; and a third time he returns and observes the Leopard's eyes and examines it to see if it is breathing. But the Leopard, by remaining motionless with the utmost self-control, inspires a gradual fearlessness in the

Monkey. And since it approaches and remains close by and takes no harm, the Monkeys up aloft also now gather courage and run down from that particular tree and from all others that grow near by, and assembling in a mass encircle the Leopard and dance round it. Then they leap upon it and turn somersaults on its body and by dancing in triumph a dance appropriate to monkeys, and by a variety of insults testify to the joy and delight they feel over the supposed corpse. But the Leopard submits to all this until it realises that the Monkeys are tired by their dancing and their insolence, when it leaps up unexpectedly and springs at them. And some it lacerates with its claws, others it tears to pieces with its teeth, and enjoys without stint the ample and sumptuous banquet provided by its enemies. It is Nature that bids the Leopard endure with heroic fortitude, so that it may rise superior to the insults of its enemies, bearing up with the utmost patience and finding no need to say 'endure, my heart'. Indeed the son of Laertes was within an ace of revealing himself prematurely through being unable to tolerate the insults of the maidservants.

5.55 In India Elephants, when compelled by the natives to pull up some tree, roots and all, do not immediately attack it and begin the task, until they have shaken it and have tested it thoroughly to see whether in fact it can be overturned, or whether that is utterly impossible.

5.56 The Deer of Syria are born on the highest mountains, on Amanus, on Libanus, and on Carmel. And when they want to cross the sea the herd goes down to the beaches and waits until the wind drops; and as soon as they observe that there is a favourable and gentle breeze, then they brave the open sea. And they swim in single file, holding on to one another, the ones behind supporting their chins on the rumps of those in front . . . takes the last place in the line, and resting itself upon the one next in front of it in the whole troop, brings up the rear. And they make for Cyprus in their longing for the meadows there, for they are said to be deep and to afford excellent pasture. The Cypriots indeed claim that they live in a fertile country, and venture to compare their arable land with that of Egypt. And there are Deer from other countries too which show this same capacity for swimming. For example, the Deer of Epirus swim across to Corcyra: the two countries face each other across a strait.

## Book 6

6.1 Men have need of the spoken word to stimulate and persuade them to be good, to banish cowardice, to gather courage: athletes, with a view to running; soldiers, with a view to fighting. Animals however need no extraneous encouragement but stimulate their prowess for themselves and rouse and incite themselves. For instance, the Boar when intending to do battle, whets his tusks on smooth rocks. Homer, you know, gives clear evidence touching the animal. Further, the Lion rouses himself by lashing himself with his tail and allows no idling and no repose. And this the poet knew when he spoke of the Lion. And Elephants inflame themselves for the fight, whenever the occasion arises, by beating themselves with their trunk: they need no one to sing to them and say 'This is no time for sitting still or for delaying', still less do they wait for the poems of Tyrtaeus. And when a Bull that is the leader of a herd is defeated by another leader, he departs to some other place and becomes his own trainer and practises every method of fighting, scattering the dust over himself and rubbing his horns against tree-trunks and fitting himself in other ways to display his strength, and particularly abstaining from sexual acts and living continently like Iccus of Tarentum, whom Plato

the son of Ariston celebrates as of refraining from all sexual commerce during the entire period of the Games. Now to Iccus, who was a man and who loved the Olympic and Pythian games and who understood what glory was and who longed for fame, it was no great matter to restrain himself and to spend the nights continently. For to him the prizes meant glory — the wild olive of Olympia, the Isthmian pine, and the Pythian laurel, admiration in his lifetime, and after death an honoured name. Again, the harper Amoebeus, I am told, married a woman of surpassing beauty but had no intercourse with her when he was going to the theatre in order to compete there. And Diogenes the actor in tragedies eschewed absolutely all licentious unions. And Clitomachus the pancratiast, if ever he saw dogs coupling, would turn away; and if at a wine party he heard some licentious and bawdy story, would get up and leave. There is nothing surprising that being men they should behave so, either in order to make money or to achieve renown and fame. But, O son of Ariston, when a bull overcomes his adversary, what proclamation announces his victory, and what prizes do men award him?

6.2 Brute beasts are in the habit of not molesting their companions and of frequently sparing them. For instance, I have heard the following story. A hunter had a Leopard which he had from its earliest days and which he loved and tended assiduously as though it were his friend or darling. Now he brought a kid and gave it to the Leopard alive, thinking to provide it at once with food and with the pleasure of tearing the kid to pieces, and supposing that it would refuse to eat dead meat. In fact when the kid was brought the Leopard controlled itself: being full-fed it needed to abstain from food. And it did the same on the second day, for it still needed the medicine of starvation. But when the third day came it began to grow hungry and, as usual, showed that it was by the sound of its voice; for all that, it still would not touch the kid which had been its friend for two days, but left it alone, though it accepted another one.

Men however have betrayed even their brothers and their parents and old friends; there have been many and frequent cases.

6.3 I have described in some earlier passage how the Bear produces some shapeless flesh and then licks it into shape and, so to say, moulds it. But what I have not already mentioned I will mention now, and this is a suitable occasion. It gives birth in the winter time, and having done so, hibernates; and as it dreads the frosts it awaits the coming of spring, and would never bring its cubs out until three full months have passed. But when it perceives that it is pregnant it dreads this as though it were some sickness, and seeks for a lair. (Hence the Bear's hibernation is called its 'lair period'.) Then it enters, not on its feet but lying down, thus effacing its tracks for those who hunt it, for it drags itself along on its back. And having entered, it rests, and in some way reduces its figure; and this it does for forty days. Aristotle however says that the Bear remains motionless and does not stir for fourteen days, and for the remainder she just turns. So she passes the entire forty days without food or nourishment: it is enough for her to lick her right paw. And owing to excessive colliquescence her intestines become wrinkled up and compressed. Knowing this, as soon as she emerges she eats some of the plant called 'wild arum'; and as this induces flatulence, it opens up her gut, widens it, and renders it capable of admitting food. And when she has filled herself out once more, she eats some ants and obtains an easy evacuation. I have now sufficiently described how Bears empty and fill their bodies by natural means without any need, my fellow men, of doctors or of concoctions.

6.4 When Snakes intend to eat fruit they swallow the juice of the herb called *picris*. It helps to prevent them from being filled with wind. And when they intend to lie in wait for a human being or

an animal, they eat poisonous roots and herbs too of the same description. So it seems that Homer too was aware of what they ate. For instance, he tells how a Snake waits for a man, lying coiled up near its lurking-place, after it has taken its fill of much poisonous, deadly provender.

6.5 When Deer have cast their antlers they go and hide in coverts and so protect themselves against attackers; and rightly so, for as they are without means of self-defence they are convinced that they have for the time being lost their strength. It is said also that, while the stumps are still fresh and before they have hardened and the young horns, called *chondroi*, have begun to form, they take care that the sun's rays shall not fall upon them and cause the flesh to putrefy.

6.6 When Horses march to battle they become suspicious at having to jump trenches, at having to leap over pits and to pass through stakes and palisades and the like. And one finds Homer saying about such matters

'Thus Hector passing through the throng implored his comrades, urging them to cross the trench. But even his swift horses dared not, but neighed loudly as they stood upon the sheer brink, for the yawning trench dismayed them, not easy to leap from close up, nor to cross.'

6.7 In Egypt near the lake Moeris as it is called, where is Crocodilopolis, the tomb of a Crow is pointed out. The Egyptians give the following reason. The King of Egypt (Mares was his name) possessed a remarkable Crow which was quite tame. Any despatches that he wished to have delivered anywhere this Crow would speedily carry; and it was the swiftest of messengers: having heard its destination, it knew where it must direct its flight to, which spot it must pass, and where it must pause on arrival. In reward for these services Mares honoured it when dead with a monument and a tomb.

6.8 Every animal has a special word to denote the care spent on its upbringing. For example, one might speak of the 'breaking in' of horses, the 'rearing' of hounds, the 'grooming' of elephants, the 'rearing' of lions, the 'rearing' of birds, and so forth.

6.9 Now here the Bear shows its clever tricks. If it is pursued together with its cubs it pushes them along in front as far as it is able. But when it realises that they are exhausted, it carries one on its back and another in its mouth, then laying hold of a tree, climbs up. And one cub clings to its back with its claws, while the other is carried in the teeth of the Bear as it mounts. If when famished it comes across a bull, it does not engage in a straightforward battle of strength, but wrestles with it and seizing its neck brings it down and tightens its clench. And while the bull is being crushed it bellows, until at last it gives up and lies dead; and the Bear takes its fill.

6.10 (i). Here is further evidence to show that animals are apt at learning. Under the Ptolemies the Egyptians taught baboons their letters, how to dance, how to play the flute and the harp. And a baboon would demand money for these accomplishments, and would put what was given him into a bag which he carried attached to his person, just like professional beggars. It has long been noised abroad that the people of Sybaris have even taught horses how to dance. Of the ease with which elephants can be induced to learn I have spoken above. Now dogs are capable of managing household affairs for those who have trained them, and for a poor man it is enough to have a dog as slave. There are after all people who are without slaves even of this kind, among the Arabs for instance the Troglodytes, among the Libyans the Nomads, and among the Ethiopians all the lake-dwellers, people who have never learnt to eat anything other than fish.



(ii). Animals retain the memory of their experiences and have no need of those mnemonic systems devised by Simonides, by Hippias, and by Theodectes, or by any other of those who have been extolled for their profession and their skill in this matter. For instance, a cow goes to the spot where her calf was taken from her and mourns for it, lowing as is her wont. Some oxen too when about to be yoked express their pleasure, others draw back. And a horse on hearing the clash of curb-chain and the clang of bit, and seeing chest-plates and frontlets, begins to snort and makes his hoofs ring as he prances, and is in an ecstasy. And the shouting of the stablemen stimulates him and he pricks up his ears and dilates his nostrils as he remembers his galloping and yearns irresistibly for his wonted exercise.

6.11 The Deer produces its young by the roadside and appears to do so from a wise precaution, because it dreads wild beasts and their designs, but has no fear of human beings: it knows full well that it is weaker than the former, but has no doubt that it can escape from the latter. But when it has grown fat it would no longer give birth by the roadside, for it knows that it is too sluggish to run, and so it brings forth its young in glens, in thickets, and in ravines.

6.12 The Land Tortoise after eating some marjoram treats a viper with contempt. But if it lacks marjoram it arms itself against its enemy by consuming some rue. If however it fails to find either, it is killed.

6.13 The Deer (so I am told) is content with what is before it and has no further wants, but is more frugal than man in its appetite. For instance, in the neighbourhood of the Hellespont there is a hill pastured by Deer, which have one of their ears cleft, and they do not stray beyond this hill, do not want strange food, desire no other meadows from any need of a larger amount of grass; so what is at hand is enough for them the whole year round. What have you, O men, to say to this, you whom

'not even all the wealth contained within the Archer's threshold of stone'

would satisfy until the day of death?

6.14 The Hyena, according to Aristotle, has in its left paw the power of sending to sleep and can with a mere touch induce torpor. For instance, it often visits stables, and when it finds any creature asleep it creeps softly up and puts what you might call its sleep-inducing paw upon the creature's nose, and it is suffocated and overpowered. Meantime the Hyena scoops out the earth beneath the head to such a depth as makes the head bend back into the hole, leaving the throat uppermost and exposed. Thereupon it fastens on to the animal, throttles it, and carries it off to its lair. And it attacks dogs in the following manner. When the moon's disc is full, the Hyena gets the rays behind it and casts its own shadow upon the dogs and at once reduces them to silence, and having bewitched them, as sorceresses do, it then carries them off tongue-tied and thereafter puts them to such use as it pleases.

6.15 The story of a Dolphin's love for a beautiful boy at Iasos has long been celebrated, and I am determined not to leave it unrecorded; it shall accordingly be told.

The gymnasium at Iasos is situated close to the sea, and after their running and their wrestling the youths in accordance with an ancient custom go down there and wash themselves. Now while they were swimming about, a Dolphin fell passionately in love with a boy of remarkable beauty. At first when it approached, it frightened the boy and completely scared him; later on however, through constant meeting, it even led the boy to conceive a warm friendship and kindly feelings towards it.

For instance, they began to sport with one another; and sometimes they would compete, swimming side by side in rivalry, sometimes the boy would mount, like a rider on a horse, and be carried proudly along on the back of his lover. And to the people of Iasos and to strangers the event seemed marvellous. For the Dolphin would go a long way out to sea with its darling on its back and as far as it pleased its rider; then it would turn and bring him close to the beach, and they would part company and return, the Dolphin to the open sea, the boy to his home. And the Dolphin used to appear at the hour when the gymnasium was dismissed, and the boy was delighted to find his friend expecting him and to play together. And besides his natural beauty, this too made him the admired of all, namely that not only men but even dumb animals thought him a boy of surpassing loveliness.

In a little while however even this mutual affection was destroyed by Envy. Thus, it happened that the boy exercised himself too vigorously, and in an exhausted state threw himself belly downwards on to his mount, and as the spike on the Dolphin's dorsal fin chanced to be erect it pierced the beautiful boy's navel. Whereupon certain veins were severed; there followed a gush of blood; and presently the boy died. The Dolphin perceiving this from the weight — for the boy lay heavier than usual, as he could not lighten himself by breathing — and seeing the surface of the water crimson with blood, realised what had happened and could not bear to survive its darling. And so with all the gathered force of a ship dashing through the waves it made its way to the beach and deliberately cast itself upon the shore, bringing the dead body with it. And there they both lay, the boy already dead, the Dolphin breathing its last. (But Laios, my good Euripides, did not act so in the case of Chrysippus, although, as you yourself and the common report tell me, he was the first among the Greeks to inaugurate the love of boys.) And the people of Iasos to requite the ardent friendship between the pair built one common tomb for the beautiful youth and the amorous Dolphin, with a monument at the head. It was a handsome boy riding upon a Dolphin. And the inhabitants struck coins of silver and of bronze and stamped them with a device showing the fate of the pair, and they commemorated them by way of homage to the operation of the god who was so powerful.

And I learn that at Alexandria also, in the reign of Ptolemy II, a Dolphin was similarly enamoured; at Puteoli also, in Italy. So, had these facts been known to Herodotus, I think they would have surprised him no less than what happened to Arion of Methymna.

6.16 Dogs, oxen, swine, goats, snakes, and other animals have a presentiment of an impending famine; they are the first too to know when a pestilence or an earthquake is approaching. They can foretell fair weather and the fertility of the crops. Though devoid of reason, which can be a man's salvation or his destruction, they are not mistaken at any rate in the matters mentioned above.

6.17 In the country of those known as Judaeans or Edomites the natives of the time of Herod the King used to tell of a Serpent of enormous size being enamoured of a lovely girl: he used to visit her and even slept with her like an ardent lover. Now the girl was terrified of her lover, although he slid up to her as softly and gently as he could. So she escaped from him and remained away for a month, supposing that the Serpent in consequence of his darling's absence would forget her. But loneliness augmented his misery, and every day and night he used to haunt the place. Since however he did not find the object of his desire, he too felt all the pains of a disappointed lover. But when the girl came back once more, he arrived and, encircling her with the rest of his body, with his tail gently lashed her legs, presumably in anger at finding himself despised. So he [the god of Love] that is above even Zeus himself and the other gods does not overlook even brute beasts, but by these and by other acts manifests his relations towards them.

6.18 Snakes, conscious that they have a narrow, elongated gullet, despite the fact that they are greedy and exceedingly voracious, as Aristotle says, rise upright and stand upon the tip of their tail, so that food slides down into them and passes into the bulk of their body. And having no feet they crawl at a great speed. Indeed one snake launches itself and flies with the speed of a javelin; and its name is derived from its action, for it is called *Acontias* (the Javelin-snake).

6.19 Not one of the birds that sing and make melody has escaped observation, but we know that swallows, blackbirds, and the tribe of cicadas sing, that the jay is talkative, that the cricket buzzes, the locust makes a light strumming, the grasshopper is not silent, and moreover that halcyons and parrots are vocal, while among aquatic creatures the croak of the male frog is not silent. And of these some utter a plaintive feminine note, others a note shrill and piercing; and some sing as they hurry from branch to branch, as though they were changing house, while others carol in the meadows as though they were holding festival, and while leading an existence that is, as it were, all flowers and delicacy, hail (so I would say) with their music the coming of spring. Touching swans and the god whose ministers they are I have spoken about above. Now the jay can imitate all other sounds but especially the human voice. And the buff-backed heron, as it is called, and the *salpinx* (trumpet) and the wryneck and the raven are peculiarly fitted to imitate the following sounds. The buff-backed heron represents the neighing of a horse; the *salpinx*, the instrument whose name it bears; and the wryneck, the cross-flute; while the raven tries to imitate the sound of raindrops.

6.20 The male Scorpion is exceedingly ferocious, but the female seems to be of a milder temper. And I have heard that there are eleven kinds: one is white, while another is red, another smoke-colour, there is also a black kind; I have learnt also that there is one kind that is green, another pot-bellied, and another that resembles a crab. But it is commonly said that the fiercest is the fiery-coloured one. I have also learned by report that there are Scorpions with wings and others with a double sting, and somewhere one has been seen with seven vertebrae. The Scorpion is not oviparous but viviparous. And it should be known that some say that the offspring of these creatures are not produced by mating but . . . heat causes Scorpions to be exceedingly prolific. And how they all inflict their sting, and the effect this produces, and how they kill, you will learn from another source.

6.21 In India, I am told, the Elephant and the Python (?) are the bitterest enemies. Now Elephants draw down the branches of trees and feed upon them. And the Pythons, knowing this, crawl up the trees and envelop the lower half of their bodies in the foliage, but the upper portion extending to the head they allow to hang loose like a rope. And the Elephant approaches to pluck the twigs, whereat the Python springs at its eyes and gouges them out. Next the snake winds round the Elephant's neck, and [as it clings to the tree?] with the lower part of its body, it tightens its hold with the upper part and strangles the Elephant with an unusual and singular noose.

6.22 To the lion, fire and a cock are utterly hateful; to the leopard a hyena, to the scorpion a gecko. Thus, if the aforesaid creature is brought near to a scorpion, the latter is seized with numbness. And the elephant shrinks from the python; and every beast of burden dreads the shrew-mouse; the lobster, the octopus. Furthermore if you were to try to push dogs off the roof, you would not succeed in throwing them down: they are afraid of the great danger involved.

6.23 What ingenuity, peculiar to their kind, Nature seems to have imparted to Scorpions! The people of Libya dreading their numbers and their machinations, devise endless schemes to counter them: they wear high boots; they sleep in beds raised high above the ground, setting their bed-cords away from the walls; they place the feet of their beds in vessels full of water, and imagine that they will

thereafter sleep without fear and in peace. But what tricks do the Scorpions devise! If a Scorpion can find some spot in the roof to which he can hang, he clings to it firmly with his claws and lets down his sting. Then a second descends from the roof, crawls down over the first, and with his claws holds fast to his sting and lets his own dangle in the air. Then a third holds on to that, and a fourth on to the third, and a fifth in a line, while those that follow crawl down over the preceding ones. Then the last Scorpion strikes the sleeper; crawls up again over the one above; after him the next; then the third from the bottom; then the rest, until the entire lot are disconnected, just as if they had undone a chain.

6.24 The Fox is a crafty creature. For instance, it plots against Hedgehogs in the following way. It cannot overcome them by a direct attack, the reason being that their prickles prevent it; and so, gingerly and taking great care of its mouth, it turns them over and lays them on their back and after ripping them open, easily devours those whom till then it dreaded.

And this is the way that Foxes hunt Bustards in Pontus. They reverse themselves and put their head down upon the ground and stick their tail up, like a bird's neck. And the bustards are taken in and approach, supposing it to be some bird of their own kind; then when they come close up, they are easily caught by the Fox, which turns upon them and attacks them violently.

Their manner of catching very small fishes is extremely dexterous. They move along the bank of a stream and trail their tails in the water. And the fish swim up and are enmeshed and entangled in the thick hairs. When the Foxes notice this, they withdraw from the water and go to dry ground where they shake their tails thoroughly: the little fishes tumble out, and the Foxes make a delicious meal.

The people of Thrace use this animal as an indicator of whether a frozen river is safe to cross. And if the Fox runs across without the ice bending or giving way beneath its tread, they make bold to follow. The Fox tests the safety of the transit in the following manner: it puts its ear down to the ice, and if it hears no sound of the flow beneath and no murmur in the depths, it has no fear, the ice being solid, and it races over without hesitation. Otherwise it would not set foot upon it.

6.25 Poets pay homage to the daughter of Iphis, and the theatres are packed when they celebrate this famous heroine, since she excelled all other women in her chaste resolve, reckoning her husband more precious than her own life.

But animals have not been wanting in inordinate affection. For instance, the hound of Erigone died upon the body of its mistress: also the hound of Silanio upon the body of its master, and neither force nor blandishment could move it from the grave. And when Darius, the last King of Persia was struck by Bessus in the battle against Alexander and lay dead, all forsook the corpse, only the dog which had been reared under his care remained faithfully at his side, unwilling to abandon, as though he was still alive, the man who could no longer tend him. Xenophon the son of Gryllus is clearly using the high-flown language of youth when he relates a similar tale of the friends of Cyrus the Younger, how his table-companions alone stood fast at his side and were slain along with him, while the eunuch who held the office of sceptre-bearer and was called Artapates, slew himself upon the corpse, not caring to live henceforward without Cyrus. And the hound of King Lysimachus of its own free will shared his death although its life might have been saved.

6.26 The Monkey-spider has by some been called 'the mountain-ranger,' but by others (I am told) 'the wood-runner.' It is born on trees and is hairy. It has also by some been called 'the flea.' Its belly has a slight incision, so that one might say it had been cut in two by a thread. It inflicts the most

dangerous bites, and they are attended by a trembling on the part of the victim; there ensues a sharp pain in the region of the heart; the urine is stopped; and the other passage also becomes blocked. It seems that the remedy for these afflictions is to eat a river-crab.

6.27 The Tom-cat is extremely lustful, but the Female cat is devoted to her kittens and tries to avoid sexual intercourse with the male, because the semen which he ejaculates is exceedingly hot and like fire, and burns the female organ. Now the tomcat knowing this, makes away with their kittens, and the Female in her yearning for other offspring yields to his lust. They say that Cats hate and abhor all foul-smelling objects, and that is why they dig a hole before they discharge their excrement, so that they may get it out of sight by throwing earth upon it.

6.28 They say that the Octopus is the most incontinent of fish and copulates until all the strength of its body is drained away, leaving it weak, incapable of swimming, and unable to seek for food; in consequence of which it provides food for others, thus: small fishes, and what are known as 'hermit-crabs,' and crabs come about it and devour it. And they say that this is the reason why the Octopus cannot live for more than a year. And as to the female, it is soon exhausted by giving birth so frequently.

6.29 Phylarchus records how a youth who was deeply devoted to birds was presented with an eaglet, and how he fed it on a variety of foods and tended it with all possible care. He reared the bird not as a plaything to sport with, but as a favourite or as a younger brother, so full of thought was the youth for the Eagle. As time passed it lit the flame of a strong mutual friendship. It happened that the youth fell sick, and the Eagle stayed at his side and nursed its keeper: while he slept, the bird remained quiet; when he woke, it was there; if he took no food, it refused to eat. And when the youth at last died, the Eagle also followed him to the tomb, and as the body burned it threw itself on to the pyre.

6.30 The Hake though not differing widely from other fish in its inward parts, is nevertheless solitary in its habits and cannot endure to live with other fish. It is the only fish that has its heart in its belly and stones in its brain resembling millstones. At the rising of the Dog-star it alone lurks in its den, while other fish are in the habit of doing so in the very frostiest seasons.

6.31 Those who hunt Crabs have hit upon the device of luring them with music. At any rate they catch them by means of a flageolet (this is the name of an instrument). Now the Crabs have gone down into their hiding-places, and the men begin to play. And at the sound, as though by a spell, the Crabs are induced to quit their den, and then captivated with delight even emerge from the sea. But the flute-players withdraw backwards and the Crabs follow and when on the dry land are caught.

6.32 Those who live by the lake of Marea catch the Sprats there by singing with the utmost shrillness, accompanying their song with the clash of castanets. And the fishes, like women dancing, leap to the tune and fall into the nets spread for their capture. And through their dancing and frolics the Egyptians obtain an abundant catch.

6.33 I am informed that the Egyptians bring birds down from the sky by some magic peculiar to them. And they have certain spells to bewitch snakes and draw them without any difficulty from their lurking-places.

6.34 The Beaver is an amphibious creature: by day it lives hidden in rivers, but at night it roams the land, feeding itself with anything that it can find. Now it understands the reason why hunters come after it with such eagerness and impetuosity, and it puts down its head and with its teeth cuts off its

testicles and throws them in their path, as a prudent man who, falling into the hands of robbers, sacrifices all that he is carrying, to save his life, and forfeits his possessions by way of ransom. If however it has already saved its life by self-castration and is again pursued, then it stands up and reveals that it offers no ground for their eager pursuit, and releases the hunters from all further exertions, for they esteem its flesh less. Often however Beavers with testicles intact, after escaping as far away as possible, have drawn in the coveted part, and with great skill and ingenuity tricked their pursuers, pretending that they no longer possessed what they were keeping in concealment.

6.35 The *Buprestis* (cow-inflater) is a creature which, if swallowed by a cow, causes it to swell and presently to burst and die.

6.36 Caterpillars feed upon vegetables and in a short while destroy them. But they in turn are destroyed if a woman with her monthly courses upon her walks through the vegetables.

6.37 The worst enemies of cattle are the Gadfly and the Horsefly. The Gadfly is the size of the very largest flies, and its sting is powerful and long, and it makes a harsh buzzing sound. But the Horsefly is like the dogfly: its buzz is louder than the Gadfly, but its sting is smaller.

6.38 Among all those who have been bitten by an Asp there is no record of a single man having escaped disaster. That is why (I am told) the Kings of Egypt wear asps embroidered upon their crowns, hinting through the figure of the aforesaid creature at the invincibility of their rule. There are Asps as much as five cubits long; the majority are black or of an ashy hue; and one may even see a red one. Those who have been bitten by an Asp do not live for more than four hours and are assailed by choking and convulsions and retching, so they say. But I am told that the Ichneumon destroys the eggs of the Asp with intent to do away with the future enemies of its own young. And there is a story that the Libyan Asp even blinds men with its breath.

6.39 Now does not Nature claim our admiration for this reason especially, besides others? Of the males ... the sires destroy most of the male fawns to prevent their multiplying and then mounting their dams. Even among brute beasts, I fancy, such an act is regarded as bringing defilement and a curse. But Cyrus and Parysatis, you men of Persia, thought it a fine and legitimate action. And Cyrus conceived a vile passion for his mother, a passion which his mother reciprocated. (While animals are moderate in their desires?) men desire everything and stop at nothing.

6.40 There is an island in the Black Sea named after Heracles which has been highly honoured. Now all the Mice there pay reverence to the god, and every offering that is made to him they believe to have been made to gratify him and would not touch it. And so the vine grows luxuriantly in his honour and is revered as an offering to him alone, while the ministers of the god preserve the clusters for their sacrifices. Accordingly when the grapes reach maturity the Mice quit the island so that they may not, by remaining, even involuntarily touch what is better not touched. Later when the season has run its course they return to their own haunts. This is a merit in the Pontic Mice. But Hippon, Diagoras, and Herostratus, and all the rest in the tale of heaven's enemies, how would they have kept their hands off the grapes or other offerings — men who preferred by one means or another to rob the gods of their names and functions.

6.41 This is what commonly happens in Egypt. When it rains in Egypt (the raindrops are minute) Mice are produced forthwith. Now they roam the ploughlands and damage the standing crops by cutting away and nibbling the ears of corn from below, and actually ravage the stacked sheaves and cause the Egyptians much trouble. On that account the people try to trap them, to exclude them by

building walls, to keep them off by digging trenches in which they light fires. Now the Mice go nowhere near the traps but allow them to remain useless. And although the walls have been rendered smooth with a wash of mortar, they climb up them and then, being exceedingly nimble, jump over the trenches. And so the Egyptians abandon their traps and schemes as ineffectual and turn from them to prayers and supplications to the gods. Whereupon the Mice, I fancy, are in dread of the wrath of heaven and retreat in the formation of a hollow square to some mountain. Now the youngest go in front and the oldest bring up the rear, and if any are left behind, the latter turn and force them to follow. If however the youngest ones halt from exhaustion, the entire lot behind them halt also, as is customary for an armed force. And when the front rank begins to move, then the remainder follow. And the inhabitants of Pontus say that the Mice there do the same. And it is believed that whenever a house is threatening to fall, all the Mice will change house as fast as their legs can carry them. Now here is another peculiar trait of Mice: whenever they hear the squeak of a marten or the hiss of a viper they transfer their young from one hole to a number of different holes.

6.42 An Italian story, which records an event that occurred when affairs were at their prime in the city of Sybaris, has reached me and is worth relating.

A mere boy, a goatherd by occupation, whose name was Crathis, under an erotic impulse lay with the prettiest of his goats, and took pleasure in the union, and whenever he wanted sexual pleasure he would go to her; and he kept her as his darling. Moreover the amorous goatherd would bring to his loved one aforesaid such gifts as he could procure, offering her sometimes the loveliest twigs of tree-medick, and often bindweed and mastic to eat, so making her mouth fragrant for him if he should want to kiss her. And he even prepared for her, as for a bride, a leafy bed ever so luxurious and soft to sleep in. But the he-goat, the leader of the flock, did not observe these proceedings with indifference, but was filled with jealousy. For a time however he dissembled his anger and watched for the boy to be seated and asleep; and there he was, his face dropped forward on his chest. So with all the force at his command the he-goat dashed his head against him and smashed the fore-part of his skull.

The event reached the ears of the inhabitants, and it was no mean tomb that they erected for the boy; and they called their river 'the Crathis' after him. From his union with the she-goat a baby was born with the legs of a goat and the face of a man. The story goes that he was deified and was worshipped as a god of the woods and vales. From the goat we learn that animals have indeed their share of jealousy.

6.43 Historians celebrate the underground passages of the Egyptians; they also with the company of poets celebrate certain labyrinths in Crete. They have yet to learn of the elaborate tracks with their mazy windings dug by Ants in the earth. Now in their wisdom these make their underground dwelling so very tortuous as to render access difficult or totally impossible for such creatures as have designs upon them. And the soil which they excavate they put around the mouth, forming as it were walls and barriers, so that the rain which descends from the sky may not easily flood them and destroy all or at any rate most of them. And with consummate skill they build partitioning walls, as you might say, to separate their cells from one another, and, as in some fine house, there will be three divisions: the first they design for the 'men's quarters,' in which the males live and any females that are with them; the second, in which the pregnant ants bring forth their young — the 'women's quarters,' as it might be; and the third they set apart as a treasury and a pit for the seeds they have collected. And no Ischomachus, no Socrates, with their interest in the management of a household on admirable lines, is there to teach them these things. When Ants go abroad to collect food, they

follow the biggest ones, and these lead the way, like generals. And as soon as they reach the crops the young ones stand at the foot of the stalks while the leaders crawl up and having eaten through what are called the 'rhacillae' of the fruitful ears, throw the ears down to the crowd below. And these go about and cut off the chaff and peel off the capsules that protect and envelop the wheat. They need no threshing, no men who can winnow, nor even 'rushing winds' to separate and sunder the chaff and the grain, yet the Ants possess the food of men who plough and sow.

I have also heard the following example of their cleverness: their relations bury dead ants in the capsules of wheat, just as men bury their parents or all whom they love in coffins.

6.44 If a Horse receives careful attention, he repays his benefactor by being good-natured and friendly. How Bucephalus bore himself to Alexander is a story that is current everywhere and would give me no pleasure to repeat. I shall also pass over the horse of Antiochus which avenged his master by killing the Gaul (his name was Centoarates) who slew Antiochus on the battlefield. Socles then, about whom not many seem to know, was an Athenian who was esteemed, and indeed was, a comely boy. Now he bought a horse, handsome too like its master but of a violently amorous disposition and with a far sharper eye than other horses. Hence it conceived a passionate love for its master, and when he approached, it would snort; and if he patted it, it would neigh; when he mounted, it would be docile; when he stood before it, it would cast languishing glances at him. These actions already savoured of love, but were thought pleasing. When however the horse, becoming too reckless, seemed to be meditating an assault upon the boy, and tales about the pair of a too monstrous nature began to circulate, Socles would not tolerate the slander, and in his detestation of a licentious lover sold the horse. But the animal could not bear to be separated from the beautiful boy and ended its days by a rigorous starvation.

6.45 The Francolin entertains the bitterest hatred for the Cock, and the Cock on its side for the Francolin; likewise the Falcon for the Crow, and vice versa; and the Raven for the Sea-hawk, and the Sea-hawk for it; the Raven and the Falcon for the Turtle-dove, and the Turtle-dove for both. I have learnt also that the Stork abhors the Bat, and the Bat in return abhors it as an enemy; and the Pelican, I am told, is not friendly disposed to the Quail, and their hatred is mutual.

6.46 To the Eagle the herb called comfrey is fatal; to the Ibis the gall of the Hyena; to the Starling the seed of garlic; to the Stone-curlew bitumen; to the Kite pondweed, as it is called. And the Kite cannot endure the gall of the Shearwater. If a Falcon, or a Sea-mew, or a Turtle-dove, or a Blackbird, or the whole Vulture tribe eat a sliced pomegranate, they die. The leaves of the cedar are fatal to the Reed-warbler (?); the flower of the agnus-castus to the Marsh-tit; to the Raven the seed of the rocket. The Beetle is killed by perfume, and the Hoopoe by the fat of a gazelle. If a Crow comes upon the remains of flesh which a wolf has eaten, it is killed. A Lark is destroyed by mustard-seed, and a Crane if it drinks the gum from a vine.

6.47 It occurs to me at this point to speak of the Hare as follows. The Hare does not repair to its accustomed form until it has confused its tracks, here in entering, and there in leaving, in order to defeat the designs of huntsmen. It is by some kind of natural sagacity that it tricks men so very craftily.

6.48 It seems that the Mare is in fact a good mother and cherishes the memory of her foal. The younger Darius had noted this; hence he would take into battle some mares that had lately foaled and had left their young at home. Foals that lose their dams are reared on the milk of a stranger, just as human beings are. Now when the changing fortune of the battle of Issus began to press the Persians,



and Darius was being defeated, he mounted a Mare, being anxious to escape and to save himself with all possible speed. And the Mare, remembering the foal she had left behind, is celebrated for having with the uttermost eagerness and at full speed snatched her master away from the critical moment of urgent danger.

6.49 At Athens an aged Mule was released from work by its master, so Aristotle tells us, but declined to abandon its love of labour and its willingness to work on the score of age. Thus, at the time when the Athenians were erecting the Parthenon, though it neither drew nor carried burdens, yet it would unbidden and of its own free will walk by the young mules as they went back and forth, like a horse harnessed alongside a pair, acting as guard, so to speak; and by treading a common path it encouraged their work, like some old craftsman whom age has released from labour with his hands but whose experience and knowledge are a stimulus and incitement to the young. Now when the people got to hear of this they directed the herald to proclaim that if it came in quest of barleymeal or approached to get corn, it was not to be prevented but was to be allowed to eat its fill, and that the populace would defray the cost, as in the case of an athlete who in his old age was given his meals in the Prytaneum.

6.50 The following story, they say, shows how Cleanthes of Assos was forced against his will and in spite of his vehement arguments to the contrary, to make a concession to animals and to allow that they too are not destitute of reasoning power. Cleanthes happened to be seated and moreover was resting quietly for some time. Now there were Ants about his feet in great numbers. So he observed how some were conveying a dead ant out of one track to a nest belonging to other ants not of their own kin. And they paused on the edge of the nest with the corpse while others came up from below and met the strangers seemingly with a view to some consultation; the same Ants then went down into the nest. And this happened several times until finally they brought up a worm, as it were a ransom. And the other party accepted it and surrendered the dead body which they had brought. And the Ants in the nest were glad to receive it, as though they were recovering a son or brother.

Now what answer can Hesiod make to this when he says that Zeus has made a distinction between various natures and has granted

'to fish on the one hand and to beasts and to winged fowl that they should devour one another, for among them there is no justice, but to mankind has he granted justice'?

But Priam will not admit this, since it was at the cost of many marvellous treasures that even he, a man and moreover a descendant of Zeus, redeemed Hector from the man who was also a hero and a descendant of Zeus.

6.51 The name of the *Dipsas* (thirst-provoker) declares to us what it does. It is smaller than the viper, but kills more swiftly, for persons who chance to be bitten burn with thirst and are on fire to drink and imbibe without stopping and in a little while burst. Sostratus declares that the *Dipsas* is white, though it has two black stripes on its tail. And I have heard that some people call these snakes *presteres* (inflaters); others, *kausones* (burners). In fact they deluge this creature with a host of names. It has also been called *melanurus* (black-tail), so they say, and by others *ammobates* (sand-crawler); and should you also hear it also called *kentris* (stinger), you may take it from me that the same snake is meant.

And it behoves me to repeat a story (which I know from having heard it) regarding this creature, so that I may not appear to be ignorant of it. It is said that Prometheus stole fire, and the story goes that

Zeus was angered and bestowed upon those who laid information of the theft a drug to ward off old age. So they took it, as I am informed, and placed it upon an ass. The ass proceeded with the load on its back; and it was summer time, and the ass came thirsting to a spring in its need for a drink. Now the snake which was guarding the spring tried to prevent it and force it back, and the ass in torment gave it as the price of the loving-cup the drug that it happened to be carrying. And so there was an exchange of gifts: the ass got his drink and the snake sloughed his old age, receiving in addition, so the story goes, the ass's thirst.

What then? Did I invent the legend? I will deny it, for before me it is celebrated by Sophocles, the tragic poet, and Dinolochus, the rival of Epicharmus, and Ibycus of Rhegium, and the comic poets Aristias and Apollophanes.

6.52 Were I to pass over a piece of cleverness on the part of an Elephant, someone will say that I failed through ignorance to record it. And it is really worth hearing, so let us hear it. The man who was entrusted with the care of its food was in the habit of purloining its corn, and by scattering stones underneath it he rendered most of the food uneatable, while preserving the bulk of the measure, so far as the master who supervised them both could see. And for a while he escaped detection. So the Elephant, observing the designing fellow as he was cooking some porridge, picked up with its trunk a mass of sand at its feet and flung it into the pot, thus adroitly avenging the treatment it had received at his hands.

6.53 All other Dogs are clever at catching and tracking down wild animals; Egyptian Dogs however excel at running away. Thus, although they dread the creatures in the Nile, thirst compels them to drink, while their fear does not allow them to drink in peace as much as they want. For that reason they do not put their heads down and drink, for fear some creature from below may creep up and seize them; and so they run along the brink, lapping with their tongue and snatching or, one might say, positively stealing their drink.

6.54 I have already mentioned many other crafty tricks of the Land *Echinus* (hedgehog), not the Sea *Echinus* (sea-urchin), but one specimen of its guile which I failed to mention I will mention now. When it is likely to be caught it rolls itself up, which makes it impossible to handle; moreover it holds its breath and remains motionless and pretends to be dead.

6.55 You would not succeed in dislodging Limpets from the rocks, even were you to grasp them with the fingers of a Milo who clung with such strength and tenacity to a pomegranate-tree that not one of his opponents could wrench it from his right hand. But anyone who undertakes to dislodge a Limpet from the rock to which it is clinging is laughed at for his pains and affords merriment to others. At all events it is impossible for him to get what he wants. An iron saw will at long last detach it from the rock.

6.56 It appears that the Libyans do not confine themselves to waging war upon their neighbours with a view to gaining an advantage over them, but they wage war upon Elephants also. And the latter are well aware that the purpose of their attack is nothing else than to get their tusks. So those beasts that have had one tusk mutilated stand in the front line, the rest of the herd using them as a cover in order that they may receive the first assault and that the rest may help with the strength of their tusks undamaged and equal to the struggle. And perhaps they are trying to convince the Libyans and to prove to them that they are risking their lives for an in-considerable reward. One of their tusks they use as a weapon and keep sharpened; the other they use as a mattock, for with it they dig up roots and lever up and bend down trees.

6.57 It seems after all that Spiders are not only dexterous weavers after the manner of Athena the web worker and goddess of the Loom, but that they are by nature clever at geometry. Thus, they keep to the centre and fix with the utmost precision the circle with its boundary based upon it, and have no need of Euclid, for they sit at the very middle and lie in wait for their prey. And they are, as you might say, most excellent weavers and adept at repairing their web. And any thread that you may chance to break of their skilled and delicate workmanship they repair and render sound and whole again.

6.58 The Phoenix knows how to reckon five hundred years without the aid of arithmetic, for it is a pupil of all-wise Nature, so that it has no need of fingers or anything else to aid it in the understanding of numbers. The purpose of this knowledge and the need for it are matters of common report. But hardly a soul among the Egyptians knows when the five-hundred-year period is completed; only a very few know, and they belong to the priestly order. But in fact the priests have difficulty in agreeing on these points, and banter one another and maintain that it is not now but at some date later than when it was due that the divine bird will arrive. Meantime while they are vainly squabbling, the bird miraculously guesses the period by signs and appears. And the priests are obliged to give way and confess that they devote their time 'to putting the sun to rest with their talk'; but they do not know as much as birds. But, in God's name, is it not wise to know where Egypt is situated, where is Heliopolis whither the bird is destined to come, and where it must bury its father and in what kind of coffin? But if there is nothing wonderful in all this, are we really to pronounce as 'wise' affairs relating to the market, to armaments, and men's other schemes for their mutual undoing? I think not, you men who rival Sisyphus and the Cercopes and the Telchines. I address myself to those who perfect themselves in these matters, but not to those who have not been initiated into the aforesaid abominations.

6.59 If even animals know how to reason deductively, understand dialectic, and how to choose one thing in preference to another, we shall be justified in asserting that in all subjects Nature is an instructress without a rival. For example, this was told me by one who had some experience in dialectic and was to some degree a devotee of the chase. There was a Hound, he said, trained to hunt; and so it was on the track of a hare. And the hare was not yet to be seen, but the Hound pursuing came upon a ditch and was puzzled as to whether it had better follow to the left or to the right. And when it seemed to have weighed the matter sufficiently, it leapt straight across. So the man who professed himself both dialectician and huntsman essayed to offer the proof' his statements in the following manner: The hound paused and reflected and said to itself: 'The hare turned either in this direction or in that or went ahead. It turned neither in this direction nor in that; therefore it went ahead.' And in my opinion; was not being sophistical, for as no tracks were visible on the near side of the ditch, it remained that the hare must have jumped over the ditch. So the hound was quite right also to jump over after it, for certainty that this particular Hound was good at tracking and keen-scented.

6.60 The Massagetae, according to Herodotus hang up their quivers in front of themselves and then the man has commerce with the woman openly, even though all can see, though in fact they pay no attention. Camels however would never couple in the open, nor if there were witnesses, so to say, looking on. But whether we are to call this modesty or a mysterious gift of Nature, let us leave to Democritus and others to decide and suppose themselves competent to investigate and explain the causes of matters obscure and past conjecture. And even the herdsman at once takes himself off when he realises that the urge to couple is upon them, just as one withdraws when the bride and bridegroom are about to enter the marriage-chamber.

6.61 Lycurgus laid down a most humane law (as I think), viz that younger men should give up their respect, and leave the path for, their elders out of respect for years which all pray they may attain, if that chance to be their destiny. But how could the noble son of Eunomus seek to rival and compete with the laws of Nature? At any rate, you lawgivers, men like Lycurgus, Solon, Zaleucus, and Charondas, the race of Elephants obeys laws which your legislation does not even begin to touch. For all that, they behave in the following manner: the young ones give way to the elders in feeding; they wait upon those that are weak with age; they guard them from danger; when they fall into pits the young ones drag them out by throwing in armfuls, so to say, and bundles of dry sticks which the elders use as steps and so climb out, though burdened with age. Where, I should like to know, did an Elephant ever belabour its sire with blows? Where, I ask, among Elephants did a sire ever disinherit its son? But perhaps, my fellow men, you who (if I am to speak the truth) fabricate and invent incredible tales, think that I am telling tales.

6.62 What I have said above proves that the Dog of Gelon certainly loves his master, and so I think I should put the following story beside the rest. Gelon of Syracuse while fast asleep fancied that he had been struck by Zeus. But what he saw was only a dream; yet, although asleep he cried aloud and at the top of his voice. Whereupon a Dog which he kept, hearing the voice of its friend and comrade, as though Gelon's life was in danger from a plot, leapt with all its force on to the bed and stood over its master, barking furiously, as though it would keep off the assailant. So Gelon was roused and through fear and the noise of barking threw off sleep though it was of the deepest.

6.63 A young Snake was brought up along with a Snake child, an Arcadian born; the snake too was of the country. So as the pair grew up the child became a youth while his foster-brother had already become enormous. And they were devoted to one another. But the relatives of the youth were terrified at the size of the monster. (You may see these creatures attain in a very short time to an enormous size and the most terrifying aspect.) And so while it was asleep on the same bed with the boy, they picked it up and took it as far away as possible. And the boy rose up, but the Snake remained in that place. And when it took to the forest and the drugs that grew there, it lived there, enjoying the food of snakes and preferring waste places to life in a city and confinement in a room.

Time passed and turned one into a young man, the other into a Snake now full-grown. And on one occasion the Arcadian, the lover and the beloved of the aforesaid creature, going through a lonely region, fell in with brigands, and at a blow from a sword he cried out, as was natural, both from pain and in order to summon help. Now it seems that the Snake of all creatures has the sharpest sight and the keenest hearing. Accordingly this Snake, being the youth's foster-brother, heard his voice and hissing loudly as in anger, struck terror into the brigands, who were seized with trembling: the villains were all scattered in different directions, and what is more, some were overtaken by the Snake and perished miserably. But the Snake cleansed the wounds of its old friend, and after escorting him past that part of the region where wild beasts lurked, departed and went to the spot where the relations had exposed it: it showed no resentment at having been cast away, nor did it in the hour of danger, like base men, neglect one who had been its dearest friend.

6.64 The Fox is a rascally creature, hence poets are fond of calling it 'crafty.' The Hedgehog also is a rascal, for directly it sees the Fox approaching it rolls itself into a ball and lies still. And the Fox, unable to open his jaws and bite it, makes water into its mouth. And the Hedgehog is suffocated because its breathing is stopped through its being rolled up and because of the aforesaid stream. Moreover the Fox having thus tricked the Hedgehog, one scoundrel tricking another, catches it out.

I have earlier described another method of capture.

6.65 In the neighbourhood of Conopeum as it is called (it is a district near the Maeotic lake) Wolves are the faithful companions of the anglers and the fisherfolk, and were you to see them you would say that they were no different from house-dogs. Now if these Wolves receive a share of the catch from the sea, there is a treaty of peace between them and the fishermen. Otherwise the Wolves rip up and destroy the nets, and for failing to give them a share inflict this damage upon the fishermen.

## Book 7

7.1 I have ascertained that the Cows in Susa are not unacquainted even with arithmetic. And that this is no idle boast the following story bears witness, in Susa the King has a large number of Cows of which each one draws one hundred buckets /daily) of water for the drier places in his parks. Now they perform with the utmost zest the task which has either been heaped upon them or to which they have long been accustomed, and you would never see one of them idling. If however you were to urge them to draw so much as one bucketful in excess of the century, you will neither persuade nor compel them, whether by blows or by soft words, to do so. This is what Ctesias says.

7.2 At the foot of Atlas (this mountain is celebrated by historians and also by poets) there are marvellous pasture-lands and forests of the deepest, whose dense foliage is like that of groves all shady and over-arched. And that, you know, is where Elephants are said to resort in old age when heavy with years. And Nature leads them as it were to a colony, giving them rest at last and providing them with a desired anchorage and harbour, so to speak, where they can live out the rest of their life. And they have a spring of drinking-water pure and welling up abundantly; and they are regarded as sacred and are allowed to go unmolested; and they have an agreement with the barbarians in those parts that they shall not be hunted; and it is commonly said that they are under the care of certain gods of the district who are lords of wood and valley. And there is a story current about them, as follows. A certain King of that country was eager to kill some of them on account of the splendour and size of their tusks, in order to obtain a choice possession, for with the multitude of years and the lengthening of time these weapons of these creatures become enormous. So when this desire came upon him he despatched three hundred picked men to shoot this sacred herd. And all equipped they accomplished their journey with the utmost speed, and were actually nearing the spot when a pestilence suddenly seized them and laid them low: all died save only one, and he returned and rendered to him who had sent them a full account of the truly lamentable disaster. By this means it was discovered that the Elephants were beloved of the gods.

7.3 There is an animal in Paeonia called Monops, and it is the size of a shaggy bull. Now when this creature is pursued, in its agitation it voids a fiery and acrid dung, so I am told; and should this happen to fall on any of the hunters, it kills him.

7.4 It seems that a special characteristic of the Bull is its docility, once it has been tamed and from being savage become gentle. At any rate Bulls remain quiet when harnessed to litters, or if you want them to lie still on their back or with their head on the ground or to sink down on their knees and carry a boy or a girl on their neck. And you will even see a Bull bearing a woman on its back or standing erect on its hind legs while it supports with ease the entire weight of its body on some

object or other. And I have even seen men dancing on the backs of Bulls, and the same men motionless there also and standing undislodged.

7.5 Libya is the parent of a great number and a great variety of wild animals, and moreover it seems that the same country produces the animal called the *Katoblepon* (down-looking). In appearance it is about the size of a bull, but it has a more grim expression, for its eyebrows are high and shaggy, and the eyes beneath are not large like those of oxen but narrower and bloodshot. And they do not look straight ahead but down on to the ground: that is why it is called 'down-looking.' And a mane that begins on the crown of its head and resembles horsehair, falls over its forehead covering its face, which makes it more terrifying when one meets it. And it feeds upon poisonous roots. When it glares like a bull it immediately shudders and raises its mane, and when this has risen erect and the lips about its mouth are bared, it emits from its throat pungent and foul-smelling [breath], so that the whole air overhead is infected, and any animals that approach and inhale it are grievously afflicted, lose their voice, and are seized with fatal convulsions. This beast is conscious of its power; and other animals know it too and flee from it as far away as they can.

7.6 Those who are adept at hunting Elephants constantly tell us that when these beasts are pursued they dash forward and are carried along with irresistible force and an impetus that nothing can withstand; there is no stopping them; they even rush through the largest trees as though they were standing corn, smashing the trees like corn-stalks. In one place the trees overtop them and hold their leaves above them, in another they themselves are higher than the trees. Indeed they run with all their might and baffle their pursuers by the course they take; which is natural, for they are familiar with the country. And when they have got far away and are at a great distance ahead of the pursuing horsemen and have regained their courage through being secure from danger and feeling free, they pause and rest and are most glad to lay aside their anxious fears. And then at this time they bethink them of food. They feed, so I hear, on the bushy mastic that grows around the trees and the wild ivy that creeps with its dense foliage over them, also upon the young and tender leaves of the date-palm and upon the more sappy shoots and twigs of other plants. But if their pursuers again approach, the Elephants once more take to flight. And so when evening has overtaken them the pursuers bivouac, and by setting fire to the forest to some extent cut off the Elephants' retreat and so bring them to a standstill. For Elephants no less than lions have a horror of fire.

7.7 I learn from Aristotle that cranes flying in to land from the sea indicate to the intelligent man that a violent storm is threatening. But if the same birds are flying tranquilly, that is a promise of fine weather and a calm atmosphere; and if they make no sound they are reminding those who have experience that it will be fairly calm. And if they [fly in from the sea?] uttering their cries and confusing their order in their agitation, there again they are threatening a heavy storm. And if a shearwater utters its cry at dusk, it apparently signifies the same; if it flies straight to the sea, it is giving a hint that a rainstorm will burst from the sky. If however the weather is stormy, the hooting of an owl portends fair weather and a bright day; whereas if the weather is fair and the owl hoots softly, you must expect storms. If a raven croaks volubly and pecks and shakes its wings, it is the first to observe that a storm is coming. Again, if the raven, the crow, and the jackdaw utter their cries in the late afternoon, they teach us that we shall have a visitation by a storm. And if jackdaws, as the same writer says, scream like hawks and fly now high now low, they point to frost and rain. If a crow caws softly at supper-time, it is inviting us to expect fair weather next day. If birds appear in great numbers and they are white, it is a certain indication that there will be heavy storms. When ducks and shearwaters flap their wings, they point to violent winds. And when birds come speeding into land from the sea, this is evidence of stormy weather. If the robin comes to cattle-sheds and

houses, he is clearly trying to escape from a coming storm. Cockerels too and domestic fowls, when they flap their wings and step proudly and cluck, signify stormy weather. When birds bathe, it is a sign that wind is threatening, and it points to gusty weather. If during a storm birds fly towards one another and in and out it is a sign of fine weather. When birds congregate about meres and on river banks, they know that a storm is coming. On the other hand when birds of the sea and lake come in to land, they know that there will be a heavy storm, whereas land birds hastening to moist places are heralds of fine weather, if, that is, they make no sound.

7.8 I have heard that the Egyptians assert that the antelope is the first creature to know when the Dog-star rises, and testifies to the fact by sneezing. The Libyans are equally bold in stoutly maintaining that in their country the goats also know in advance; they also give clear signs of impending rain. For when they emerge from their pens they rush at full speed to their fodder. Later, when satisfied, they turn towards home, and facing in that direction remain still and wait for the herdsman to gather them in as quickly as possible.

And Hipparchus in the reign of Hiero the tyrant was sitting in the theatre wearing a leathern jerkin, and astonished people by knowing in advance out of the clear weather then prevalent that a storm was coming. And Hiero in his admiration of the man congratulated the people of Nicaea in Bithynia on having Hipparchus as a citizen. And when at Olympia Anaxagoras, likewise clad in a leathern jerkin, was watching the Olympic Games and a storm of rain burst, all Hellas sang his praises, and claimed that his wisdom was more that of a god than of a man. And few if any are surprised that an ox, if rain threatens, lies down on his right side, contrariwise if fair weather is coming, on his left. And I have also heard the following facts which are calculated to astonish one. If an ox bellows and sniffs the air, rain is inevitable. And if oxen eat copiously and more than is their custom, it portends a storm. When sheep dig the ground with their hoofs, it is likely to mean a storm; and if the rams mount them early in the day, it promises an early storm; and the same when goats lie huddled together. When pigs appear in cornland, they inform us that the rain is departing. Now when lambs and kids leap on one another and frisk about, they promise a bright day. But when martens squeak and mice likewise, they are conjecturing that there will be a violent storm. When wolves quit lonely places and make straight for inhabited districts, they show thereby that they dread the onslaught of a coming storm. If a lion visits cornlands, it presages a drought. And if beasts of burden gambol and low more than is their custom, it shows that storm and rain are on their way; and if besides, they toss up the dust with their hoofs, it signifies the same. If hares are seen in great numbers in the same places, it signifies fair weather. In all these matters men fall behind: they only know these changes when they occur.

7.9 Here are further facts which I have heard touching Hawks. The ministers of Apollo in Egypt say that there are certain men called 'hawk-keepers' for this reason: they feed and tend the Hawks belonging to the god. Now the whole race of Hawks is consecrated to this god, but there are certain sacred birds which are fed upon carefully prepared food and which seem in nowise to differ from offerings made to the god. Now the men who have been charged with the care of these birds tell the uninformed that each of them (they are tended in a sacred grove) lays eggs in its nest. They have, it is true, the care of all Hawks, but these sacred ones are their special charge. They take out the brains of birds which have been caught and throw them to the newly born Hawks: soft food for tender chicks. But to those that are full-grown the keepers serve flesh and sinews, which furnish strengthening nourishment for birds of prey. Those however that are in the intermediate stage between chicks and full-grown birds are served with the hearts, and one may see the remains of them. So the aforesaid difference of foods concedes the point that Hawks know what is appropriate

and agreeable to each age; and they are particular about it and would never touch food unsuited to their age. At a certain season quails visit their country and other birds arrive in flocks, and these sacred Hawks feast on them also.

7.10 The following story, I think, also affords evidence of the unbreakable affection which Dogs have for those who keep them. In one of the civil wars at Rome when Galba the Roman was murdered, there was not one of the man's enemies that was able to cut off his head, although countless numbers competed for this trophy, until they had killed the Hound at his side that had been reared under his care and that maintained its affection with the utmost loyalty and fought on behalf of its dead master, as though it were a fellow soldier, sharer of the same tent, and friend to the very last. It is worth knowing 'what a deed was this, wrought' not 'by a man', I declare, but by a faithful Hound of valiant spirit.

Pyrrhus of Epirus was on a journey when he came upon the corpse of a man who had been killed, with his Dog standing beside and guarding its master to prevent anybody from adding outrage to murder. Now it happened that this was the third day for which the Dog was keeping its assiduous and most patient watch, unfed. And so when Pyrrhus learnt this he took pity on the dead man and ordered him to be buried; but as for the Dog, he directed that it should be cared for and gave it whatever one offers a dog with one's hand, in sufficient quantity and of a nature to induce it to be friendly and well-disposed towards him; and little by little Pyrrhus drew the Dog away. So much then for that. Now not so long after, there was a review of the hoplites, and the King whom I mentioned above was looking on, and that same Dog was at his side. For most of the time it remained silent and completely gentle. But directly it saw the murderers of its master in the review, it could not contain itself or remain where it was, but leaped upon them, barking and tearing them with its claws, and by frequently turning towards Pyrrhus did its best to make him see that it had caught the murderers. And so a suspicion dawned upon the King and those about him, and the way in which the Dog barked at the aforesaid men caused them to reflect. The men were seized and put on the rack and confessed their crime.

To those who trample upon the ordinance of Zeus the god of fellowship and of affection and betray their friends in life and after death, all this seems a mere tale. But for my part I do not follow those who fail to appreciate the excellence of Nature which, if she has given brutes a share of kindness and affection, has certainly given a larger share to us rational beings. But they make no use of her gift. And what need is there to add to my story all the other crimes which men have committed against their friends for the sake of base gain, hatching plots and acting the traitor? It fills me with pain that a Dog should be shown to have more loyalty, more kindly feeling than man.

7.11 Here is another story which has come to my ears: it is about the Octopus. There was a rock rising from the sea, though not to a great height. Now once upon a time an Octopus crawled up it and spread out its tentacles and was glad to warm itself (the weather was inclined to be stormy), though it did not at once assume the colour of the rock. Octopuses do this naturally, to protect themselves against those who have designs upon them, and also that they themselves may ambush fishes. Now an Eagle, quick to mark its prey (though it got no good thereby), swooped with all the force of its wings upon the Octopus, reckoning to secure a ready meal for itself and its young. But the creature's tentacles wreathed themselves round the Eagle, and clinging fast to its hated enemy dragged it down, a case of 'The hungry wolf,' as you might say. And presently the Eagle was floating dead upon the sea for the sake of its meal. Birds in fact suffer countless misadventures of this kind, and men even more: for example, Cyrus the Second, the son of Cambyses, among the Massagetae



celebrated by Herodotus; Polycrates also who hastened to Oroetes with the intention of laying hands on his gold, and any who

'working for another's ill, wreaks ill for his own heart.'

Brute beasts do not realise these dangers; human beings do, but fail to guard against them. What use to you, Cyrus and Polycrates, were a tongue, speech, teachers, beatings? I say nothing of the others, for why should I give the most profitable advice to men who are deaf and senseless?

7.12 Let the women of Paeonia be proud: let them assume arrogant airs, since their conduct is celebrated. This is what they do: on their head they carry a vessel full of water, their neck held straight so that as they walk the vessel shall remain erect without upsetting. They attach their children to their breast before suckling them; and fastening the rein of their husband's horse to one arm lead it to drink, while they use their hands to spin thread. It was this that moved Darius to admiration when some young Paeonians, having equipped their sister in the manner described, brought her before him as he sat in judgment, in order that he might be attracted by such a concentration of self-help and show mercy to their country.

And yet how far more impressive is Nature than the Paeonian women. A bitch was hunting; the quarry was a hare and the bitch was pregnant. As soon as she had attained the object of her pursuit, she left it to her master and drawing aside, dropped (so they say) nine puppies, which she then reared. And if the women of Liguria pride themselves that they also after giving birth rise up and devote themselves to their household duties, they will, on hearing what the aforesaid bitch did, forgo their pride and hide their heads in shame.

7.13 Aristotle has told the story of the labour-loving Mule, and so have we earlier on, but the episode of the Dog, which also occurred in Athens, is not irrelevant.

A temple-thief who had waited for the midmost hour of night and had watched till men were deep asleep, came to the shrine of Asclepius and stole a number of offerings without, as he supposed, being seen. There was however in the temple an excellent watcher, a Dog, more awake than the attendants, and it gave chase to the thief and never stopped barking, as with all its might it summoned others to witness what had been done. And so at first the thief and his companions in that crime pelted the Dog with stones; finally he dangled bread and cakes in front of it. He had been careful to bring these things with him as an attraction to Dogs, as he supposed. Since however the Dog continued to bark when the thief came to the house where he lodged and when he came out again, it was discovered where the Dog belonged, while the inscriptions and the places where the offerings were set up lacked the missing objects. The Athenians therefore concluded that this man was the thief, and by putting him on the rack discovered the whole affair. And the man was sentenced in accordance with the law, while the Dog was rewarded by being fed and cared for at the public expense for being a faithful watcher and second to none of the attendants in vigilance.

7.14 The Goat, it seems, is in fact skilful at curing that mist of the eyes which doctors call 'cataract,' and it is even said that men have learnt this cure from the Goat. The method is as follows. When the Goat perceives that its sight has become clouded it goes to a bramble and applies its eye to a thorn. The thorn pricks it and the fluid is discharged, but the pupil remains unharmed and the Goat regains its sight without any need of man's skill and manipulation.

7.15 Young Elephants cross a river by swimming, but the full-grown ones, if covered by the stream, raise their trunks above the water, while the mother-elephants carry their newly born young upon their tusks. It is the young who take the lead in danger and hardship; out of respect for their elders they give way to them in drinking and feeding, and they have no need at all of the laws of Lycurgus. An Elephant old and weak or stricken with disease would never be abandoned by his fellows in the herd, but they stay beside him loyally and hasten to lend him strength on all occasions, especially when they are being pursued; and they fight on his behalf and through staying by him receive wounds, when they could escape. The females would never desert the young they have borne, but they too remain loyally at their side even though hunters press hard upon them, and they would sooner relinquish their life than their offspring.

When I was a boy I knew an aged woman, Laenilla by name, and everybody used to point at her, and a story was told of her to this effect. My elders used to tell me that she had passionately loved a servant and used to sleep with him, thereby bringing a slur upon her own children. They were well-born and belonged to the Senatorial order in Rome by descent from their fathers and remoter ancestors. Now the children for very shame were angry with their mother for her behaviour and admonished her gently and spoke to her in private of the shameful nature of her conduct. But she, seething with lust and putting her love above her sons, accused them before the magistrate, alleging that they were plotting against him. The magistrate having a ready ear for calumny, and being of a suspicious and cowardly nature (those are attributes of an ignoble character), believed her. So her sons who had done no wrong were put to death, while the woman reaped the reward of her informing and slept freely with the slave.

O gods of our fathers, O Artemis of the child-bed, and ye goddesses of birth, daughters of Hera, why, when we recall calamities that befell recently and in our own day, should we speak any more of Colchian Medea or Attic Procne?

7.16 Eagles seize tortoises and then dash them on rocks from a height, and having smashed the tortoise's shell they extract and eat the flesh. It was in this way, I am told, that Aeschylus of Eleusis, the tragic poet, met his end. Aeschylus was seated upon a rock, meditating, I suppose, and writing as usual. He had no hair on his head and was bald. Now an Eagle supposing his head to be a rock, let the tortoise which it was holding fall upon it. And the missile struck the aforesaid poet and killed him.

7.17 The Ceryl and the Halcyon feed side by side and live together. . . . And when the Ceryls are feeble with age the Halcyons place them on their back and carry them about upon their middle wing-feathers, as they are called. Women however look down upon those who are ageing, and cast their eyes on youths. And husbands are eager after girls and take no notice of their elderly legal wives: creatures gifted with speech are not ashamed to live more unreasonably than unreasoning animals.

7.18 The Egyptians who live about the region called Coptus assert that no more than a pair of Ravens is seen there. And even those Romans who guard the mountain district because of the Emerald Mine, they also maintain that the same number of this species live there. And in that place there is a temple in honour of Apollo to whom, they say, the birds are sacred.

7.19 Here again I may as well speak of the peculiarities of animals. The sheep and the ass seem inclined to be sluggish; fawns, roe-deer, gazelles, antelopes, hares (which poets style 'cowerers') are timorous creatures. Timorous also are sparrows among birds, and the mullet among fishes. Baboons and goats are lecherous, and it is even said that the latter have intercourse with women — a fact

which Pindar appears to marvel at. And even hounds are said to have assaulted women, and indeed it is reported that a woman in Rome was accused by her husband of adultery, and the adulterer in the case was stated to be a hound. And I have heard that baboons have fallen madly in love with girls and have even raped them, being more wanton than the little boys in the all-night revels of Menander. The partridge is extremely lecherous and given to adultery; at any rate these birds are said to go after the hens stealthily and with hardly a sound. Dogs do not admit others to share their food on any account; at any rate they often tear one another over a bone, just like Menelaus and Paris over Helen. I am told that the dogs of Memphis are the only ones that pool their prey and share their food. The hog is implacable and devoid of justice; at any rate these creatures eat one another's dead bodies. And the majority of fishes do the same. But the most impious of all is the hippopotamus, for it even eats its own father. Flies and dogs are without shame and are not easily checked.

7.20 Wolves are exceedingly fierce, and the Egyptians assert that they even eat one another, and that the way in which they plot against each other is, they say, as follows. They gather round in a circle and then start to run. And when any of their number is overcome with dizziness from running round and round and collapses, the rest fall upon him as he lies, tear him to pieces, and eat him. They do this whenever their hunting is unsuccessful. For with them, provided they do not go hungry, nothing else counts; just as with evil men nothing counts but money.

7.21 It seems that the Monkey is the most mischievous of animals; and even worse when it attempts to copy man. For example, a Monkey observed from a distance a nurse washing a baby in a tub, observed how first of all she took off its swaddling clothes and then after the bath wrapped it up; it marked where she laid it to rest, and when it saw the place unguarded, sprang in through an open window, from which it had a view of everything; took the baby from its cot; stripped it as it had chanced to see the nurse do; brought the tub out, and (there was water heating on some embers) poured boiling water over the wretched baby and even caused it to die most miserably.

7.22 It seems that the Hyena also and the *Corocottas*, as they call it, are viciously clever animals. At any rate the Hyena prowls about cattle-folds by night and imitates men vomiting. And at the sound dogs come up, thinking it is a man. Whereupon it seizes and devours them. I shall now relate the villainy of the *Corocottas*, of which I have actually heard. It conceals itself in thickets and then listens to woodcutters calling one another by name, and even to anything they say. And then it imitates their voices and speaks (though the story may be fabulous) with a voice that sounds human at any rate, calling out the name which it has heard. And the man who has been called approaches: the animal withdraws and calls again: the man follows the voice all the more. But when it has drawn him away from his fellow-workers and has got him alone, it seizes him and kills him and then makes a meal off him, after luring him on with its call.

7.23 The Lion knows how to take vengeance on one who has previously done him an injury, and even though the vengeance be not immediate,

'yet doth he keep his anger thereafter in his bosom, until he accomplish it'.

And Juba of Mauretania, the father of the boy who was a hostage at Rome, bears witness to this. He was marching once through the desert against some tribes who had revolted, when one of the youths who ran beside him, well-born, handsome, and already fond of the chase, struck with a javelin a Lion that chanced to appear by the roadside: he hit the mark and wounded the beast, but failed to kill it. But the expedition was in haste; the animal drew off, and the boy who had wounded it hurried by

with the rest. Now when a whole year had passed and Juba had accomplished his purpose, returning by the same way he arrived at the spot where the Lion had happened to be wounded. And in spite of the multitude of men that same Lion came forward and, without touching anyone else, seized him who a year ago had wounded it, and pouring forth the gathered anger which it had been nursing all that while, tore to pieces the boy whom it had recognised. But not a soul took vengeance: they were afraid of the fierce and absolutely terrifying anger of the Lion. And besides, their journey made them hasten.

7.24 I have heard that there are different species and various tribes of Crabs, for there are some that live on rocks, but there are others besides, which mud, seaweed, and sand generate. And they have many shapes and many names. And the Runner-crabs as they are called (and most appropriately) roam hither and thither, for it is neither their wish nor their nature to remain quiet and at rest in the same place, but they wander about the beaches where they were born; and they do in fact go further afield, just as human beings who are fond of travel. The occasion of their wandering so far is their desire for more food of some kind. Now in the Thracian Bosphorus whenever the current comes down strongly from the Euxine, the Crabs wish to force their way upstream, but, as is natural, the stream breaks with too great violence round the headlands, so that if they should want to go against it, it will altogether thrust them back and defeat them. Now the Crabs are already aware of this, and whenever they come near a headland each one halts in some bay-like spot and waits for the others. Then when they have congregated in one spot, they crawl up on to the land and scramble up on to the cliffs and so pass by on foot that part of the sea where the current is strongest. Then having surmounted and passed the promontory, they descend once more to the sea. But the fishermen spare them because it is of their own free will that the Crabs crawl out on to the land: the men wish also to be spared themselves: they cannot bear to appear more cruel than the waves.

7.25 I know that I have somewhere earlier on spoken of jealousy on the part of an animal not only extremely prudent but also extremely continent: it was, if my memory is sound, the Purple Coot. And I have now heard of a Lap-dog in Sicily that was the enemy of adulterers and a bitter foe to all of that class. The adulterer had concealed himself indoors, the lecherous woman having heard that her husband was returning from a journey; and the man was, as he supposed, well-situated for a hiding-place: for the servants, or those who were in league with their mistress to conceal the crime (there were 'such as were stewards of mirrors and of perfumes,' as Euripides says), and the doorkeepers too had been bribed, and this made the adulterer bold. However matters did not turn out as intended; far from it. For the Lap-dog kept barking and even scratching with its paws at the door in such a way as to alarm the master and to cause him by its action to guess that there was some mischief lurking. So naturally enough he threw open the door and caught the adulterer. The man had a sword and was waiting till night fell so that he might kill the master of the house and thereupon marry the aforesaid woman.

7.26 Here is another example of the cleverness of Goats. They know full well that human spittle is deadly to other animals and they keep away from it, just as we also try to avoid anything that would injure a man were he to taste of it. Indeed it has happened before now that a man has in his ignorance and unconsciously swallowed some poison; but as to Goats, the aforesaid spittle would never take them unawares. And doubtless the same spittle is most effective at killing even sea-scolopendras. A Goat that is destined for slaughter is well aware of it: witness the fact that it will no longer touch food. And a Goat disdains to bring up the rear of a flock of sheep, but must take the lead, and proclaims it by its gait. At any rate she walks ahead of them, and the He-goat of the She-

goats as well: his beard gives him confidence, and by some mysterious natural instinct he sets the male above the female.

7.27 It seems that Sheep are in fact the most readily obedient of animals and have been taught by Nature to submit to rule. At all events they give heed to the shepherd and his dogs, and they even follow goats. Also they are devoted to one another and consequently less exposed to the attacks of wolves. For a Sheep does not wander away by itself, nor yet does it separate itself from its fellow, as goats do. The Arabians maintain that their flocks grow fat upon music rather than upon fodder. They like eating saline things, because they add a flavour to their drink. Moreover Sheep know this too, viz that the north wind and the south wind, no wind less than the rams which mount them, are their allies in promoting fertility. And this also they know, that whereas the north wind tends to produce males, the south wind produces females. And a Sheep that is being covered faces in this direction or in that according as it wants a male or a female offspring. So Achilles needed to pray in order that his friend lying on the pyre might be burned, and Iris summoned the winds for him, O noble Homer, promising them, if they came, a sacrifice by way of reward. And the son of Neocles taught the Athenians to sacrifice to the Winds. But Sheep without any trouble have them ready and unsummoned to help them to pregnancy. And so shepherds also are good at looking out for them. At any rate when the south wind blows they put the rams to the Sheep, in order that their offspring may preferably be female.

7.28 When Icarius was slain by the relatives of those who, after drinking wine for the first time, fell asleep (for as yet they did not know that what had happened was not death but a drunken stupor), the people of Attica suffered from a disease, Dionysus thereby (as I think) avenging the first and the most elderly man who cultivated his plants. At any rate the Pythian oracle declared that if they wanted to be restored to health they must offer sacrifice to Icarius and to Erigone his daughter and to her hound which was celebrated for having in its excessive love for its mistress declined to outlive her. Euripides is not serious when he says

'Good slaves are grieved and their hearts are gripped when things go ill with their masters,'

for where is the man who died in consequence of his master's death, although this is what a dog — a slave — did?

7.29 Now here is a further testimony to the peculiar goodwill which Dogs bear towards those who keep them. A man of Colophon arrived at Teos with the intention of buying up certain articles, for he was a merchant and made his profits by retailing and exchanging his purchases. And he brought with him money, a servant, and a Dog; and the slave carried the money. But on the journey the servant stepped aside — he had a pressing call of nature — and the Dog followed him. Now the young man put down the money-bag and forgot to pick it up again and went on his way. But the Dog lay down on the money and remained quietly there. And when the master and his servant arrived at Teos they returned without doing any business, not having the means to make purchases. They turned aside however along the same road where the servant left the purse and found their own Dog lying upon it and hardly breathing from starvation. But directly the Dog saw its master and its fellow-slave it moved off the moneybag and in the same instant gave up its post of guardian and its life.

So then even the dog Argus, O divine Homer, was no fiction of yours, no poetical exaggeration, if indeed the events which I have narrated really befell the man of Teos.

7.30 There is a species of Crab called *Peteliae* (flyers). They are paler in appearance than other crabs and are generated in the mud. And when scared they actually fly, for they possess tiny wings which give them a slight lift and lessen their weight. When walking however they have no need of them, but when frightened these wings afford them a certain not very considerable assistance, for as they do not fly high and are unable to travel through the air, they are caught; and some people eat these crabs. And they do say that they are good for sciatica if eaten during an attack.

7.31 Hermit-crabs are born without a shell and select for themselves the shell that makes the best house for them to live in. They even enter the shell of the purple-shellfish if they can find one empty, and the shell of the whelk. And so long as it is large enough to cover them they are satisfied with their lodging. But if their body grows they migrate to another dwelling, and they find quantities of such shells.

7.32 Whelks even have a King and submit most obediently to his rule. And this King exceeds all others in size and beauty. And if it is expedient for him to sink, he is the first to do so; if to come up again, he leads the way; and when he moves to another place the rest follow him. The man who succeeds in catching this King knows well that his affairs will prosper. Moreover if a man sees a King Whelk being caught, he goes away in more cheerful spirits, imagining that he too will have some good fortune. And at Byzantium a prize is offered for the man who catches the aforesaid fish: each of his fellow-anglers contributes an Attic drachma to the one who catches it, and that is the prize.

7.33 Waves roll Sea-urchins out of their haunts, dash them on to the dry land, and hurl them with the utmost violence out of the sea. So for fear of this, whenever these creatures perceive the waves rippling and beginning to swell to greater violence, they pick up with their prickles as many pebbles as they can carry and have some ballast, so that they are not easily rolled about and do not undergo what they dread.

7.34 The Purple Shellfish is exceedingly gluttonous and possesses an unusually long tongue which it thrusts through everything that it can. By this means it draws in whatever it eats, and by this means it is caught. And the way in which it is hunted is this: men weave a weel, small and of close texture, and inside there is a whelk and this has been inserted in the centre of the weel. Now the Purple Shellfish struggles to extend its tongue to the utmost and to reach its prey. And it is forced to project the whole length if it is not to miss what it longs for. And when it has inserted its tongue it sucks until the tongue is so swollen with surfeiting that the creature cannot withdraw it again. So there it remains caught, and the fisherman observing this, catches for the second time what has already been caught by its own gluttony.

7.35 The Scolopendra is a creature of the sea and looks exactly like the land-scolopendra (centipede). And if a man's skin come in contact with it, he at once feels a stinging and irritation, and has the same kind of pain as from the plant they call the nettle. And Sea-anemones also produce an itching, but not so violent; and they are better to eat when the equinox is past.

7.36 Whenever Elephants are routed by hunters and begin to stampede like soldiers in war, they do not scatter and take to flight singly but in a herd, and they press against one another as they cling to their fellows. Round the outside are the young animals, the most pugnacious, you might say; in the middle the old elephants and the mothers, and beneath them the baby elephants, each mother hiding her own. And these little ones are very seldom to be seen. And even lions, if they catch sight of them

herded together, lions which up to that moment have inspired fear and consternation, either flee at full speed or cower down one here and another there, like fawns, in terror of the Elephants.

The Elephant does not turn and face its pursuers, unless it be to protect its young or sick ones: then it is irresistible.

7.37 When Porus the King of the Indians had received many wounds in the battle against Alexander, his Elephant proceeded with its trunk to pick out the javelins gently and cautiously; and in spite of its own numerous wounds it did not pause until it knew that its master was collapsing through copious loss of blood and was swooning. And so it lay down beneath him and remained crouching to prevent Porus from falling from a height and damaging his body even more.

7.38 Their hounds used to accompany the people of Hyrcania and Magnesia to war, and in fact these allies were an advantage and a help to them. An Athenian took with him a Dog as fellow-soldier to the battle of Marathon, and both are figured in a painting in the *Stoa Poecile*, nor was the Dog denied honour but received the reward of the danger it had undergone in being seen among the companions of Cynegirus, Epizelus, and Callimachus. They and the Dog were painted by Micon, though some say it was not his work but that of Polygnotus of Thasos.

7.39 Those who maintain that Hinds do not grow horns have no regard for witnesses to the contrary, none for Sophocles who says

'And down from the steep crags came roaming an antlered hind';

and again

'Lifting its nostrils . . . and the tynes of its antlers (the hind) moved on in peace'.

This is what the son of Sophillus wrote in his *Aleadae*. And Euripides in his *Iphigenia* says

'But I will place in the very hands of the Achaeans an antlered hind, which they will slay and boast they have slain thy daughter'.

And the same Euripides says in his *Temenidae* that the 'Labour' of Heracles had horns, in the following verses:

'And he came in quest of the golden-horned deer, braving one fearful task in his mighty labours, over mountain haunts to meadows untrodden, and to groves where flocks graze'

And the Theban minstrel in one of his *Epinician* odes sings thus:

'Necessity laid upon him by Eurystheus through his father urged him on to fetch the hind with the golden horns'.

And Anacreon says of the Hind

'Even as a new-born fawn unweaned, which, when forsaken by its horned mother in the forest, is affrighted'.

Those who falsify the reading and go so far as to say that we should write ἐροέσης (for κεροέσης) are soundly refuted by Aristophanes of Byzantium; and I am convinced by his refutation.

7.40 Now here are further instances afforded by dogs of loyalty unsurpassable. When Polus the tragic actor died and his body was burning, the dog which he had kept sprang on to the pyre and was burned to death along with him. When the body of Mentor was burning, his Eretrian hounds of their own accord were burned to death and shared his end. Theodoras an excellent harp-player, was placed in the coffin by his relatives, and his Maltese Lap-dog threw itself into the receptacle and was buried along with him. And I have heard that there is a race of beings in Ethiopia among whom a Dog is king, and they obey his Dog as wishes: when he whimpers they know that he is in a good temper, but when he barks they understand that he is angry. If Hermippus is in anyone's view a competent authority, he should carry conviction from having cited Aristocreon as a witness to his story. This has not escaped my notice and it was opportune that I remembered it.

7.41 Lacydes the peripatetic philosopher possessed a remarkable goose. At any rate it was deeply devoted to its keeper: when he went for a walk, it went too; when he sat down, it would remain still and would not leave him for a moment. And when it died Lacydes gave it a most costly funeral as though he were burying a son or a brother. And Pyrrhus of Epirus had an elephant which was so fond of its master that when Pyrrhus was killed at Argos, though its driver had fallen off, it would not halt and remain still until it had rescued him from the hands of the enemy and had brought him back to his friends.

7.42 Thales of Miletus repaid the malice of a Mule which he detected with great subtlety. A Mule was carrying a load of salt and once, when crossing a river, by accident stumbled and was upset. Consequently the salt was soaked and melted, and the Mule was delighted to be eased of its burden. So the Mule realising the difference between labour and relaxation took a lesson for the future from its accident and deliberately contrived what before it had unwillingly undergone. It was impossible for the muleteer to drive it by any other road away from the river. So when Thales heard the man's explanation, he thought that he must contrive to punish the Mule for its malice and ordered the man to load it with sponges and wool on top of the salt. But the Mule all unaware of the plot stumbled as usual, and having saturated its burden with water, realised that its trick was turned to its own undoing; so after that it made the crossing without disturbance and kept control of its legs and preserved the salt undamaged.

7.43 I learn that at Antioch in Syria there was a tame Elephant and that as it went to its feeding-grounds it used to take great pleasure in the sight of a woman who sold garlands, and would stand close by her and clean her face with its trunk. Accordingly the woman used to hang out as a bait to charm it a garland woven of the season's flowers, and every day it was the Elephant's practice to accept, and hers to offer it. In course of time the woman departed this life, and the Elephant, missing its customary fare and not seeing the woman of its desire, grew savage like a lover who has lost his loved one. And the creature that till then had been of the gentlest was inflamed with passion like men who are overwhelmed with excess of grief and driven out of their senses.

7.44 Elephants do obeisance to the rising sun by lifting their trunks like hands to face its beams, and that, you see, is why they are beloved of the god. Let Ptolemy Philopator be a trustworthy witness to the fact. With the aid of the god he overcame Antiochus, and in sacrificing for his victory and to propitiate the Sun he not only offered sacrifices on a magnificent scale but even went so far as to offer four of the very largest elephants as victims, paying homage, as he supposed, to the god by this



very sacrifice. But a vision in his sleep troubled him: the god seemed to threaten him for this unusual and strange offering. And he in his fear caused four elephants to be made of bronze and offered them to the god in place of those he had slaughtered, hoping to placate him and to ensure his favour. Elephants for their part worship the gods, whereas mankind is in doubt whether in fact there are gods, and, if there are, whether they take thought for us.

7.45 (i). The Priests of Egypt do not purify themselves with water of every kind, nor even with such water as they may chance upon, but only with that from which they believe an Ibis has drunk. For they know full well that this bird would never drink water that was dirty or that had been tainted with any drugs; for they believe that the bird possesses a certain prophetic faculty, seeing that it is sacred.

(ii). I learn that unwounded Elephants pick spears and javelins out of those that have been wounded, with caution, just as though they understood the practice of surgery and had acquired skill in these matters.

(iii). It seems that people in olden times paid regard even to brute beasts in the following way. Pyrrhus of Epirus delighted to be called 'the Eagle,' and Antiochus, so it is said, to be called 'the Hawk.' I have mentioned these cases together, different though they are; an intelligent man will find them worth knowing.

7.46 Mithridates of Pontus when asleep was unwilling to entrust his own safety to weapons and spearmen, and for that reason he kept as bodyguard a bull, a horse, and a stag that had been tamed. Accordingly these animals guarded him while he slept, and if ever anyone approached they at once perceived it by his breathing. And they would wake the King, the bull by bellowing, the horse by neighing, and the stag by bleating.

7.47 The young offspring of wild animals have different appellations, and the majority at any rate have two names. The young of Lions, for instance, are called σκύμνοι and λεοντιδεῖς, as Aristophanes of Byzantium testifies; and of Leopards, σκύμνοι and ἀρκηλοι, although there are those who assert that ἀρκηλοι are a different kind of leopard. But the young of Jackals are habitually called σκύμνοι only; and the same with Tigers and Ants and Panthers. And it appears that the young of Lynxes are similarly spoken of; at any rate in the *Dithyrambs*, as they are called, of Lasus we find the young of a lynx spoken of in this way. We hear too of the σκύμνοι and also of the πιθηκιδεῖς of Monkeys, and of the πώλοι of Antelopes, And I should not be surprised if we heard of the πώλοι of Gazelles also says the same Aristophanes. 'But the young of Dogs and Wolves would be called σκύλακες,' he says. And young wolves are in fact also called λυκιδεῖς, whereas a full-grown wolf of the largest size would be called μονόλυκος. The young of Hares are λαγιδεῖς, but a fully grown Hare poets like to call πῶκα, the Spartans, ταχίνας. The young of Foxes are called αλωπεκιδεῖς, while their mother is called κερῶ and σκαφόρη and σκίνδαφος. Men call the young of Wild Swine μολόβρια, and you may hear Hipponax in some passage speaking of an actual Boar as μολοβριτης. And there are certain Pigs that are called μονία. People habitually call Gazelles ζόρκις and πρόκες. And the young of Porcupines and similar creatures are called οβρία; the word is mentioned by Euripides in his *Peliades* and by Aeschylus in his *Agamemnon* and his *Dictyulci*. But the young of Birds and of Snakes and of Crocodiles are called φάκαλοι by some, among whom are the people of Thessaly. And people call little new-hatched birds ορτάλιχοι, and the young of chickens ἀλεκτοριδεῖς; and again they speak of χηνιδεῖς and χηναλωπα,δεῖς and form words like them on the same principle. But Achaeus the tragic poet called the young of the Swallow μόσχος.

7.48 That memory is an attribute even of animals, and that this is a characteristic acquired without the system and science of mnemonics which certain wonder-workers claim to have invented, the following facts demonstrate. One Androcles by name, who happened to be a slave in the household of a Roman senator, ran away from his master after committing some offence, the nature and extent of which I am unable to state. Well, he arrived in Libya and was for avoiding towns and, as the saying is, 'marked their places only by the stars' and went on into the desert. And being parched by the excessive and fiery heat of the sun, he was glad to take refuge and to rest under a caverned rock. This rock, it seems, was the lair of a Lion. Now the Lion returned from hunting, injured from having been pierced with a sharp stake, and when it encountered the young man it looked at him in a gentle manner and began to fawn upon him, extending its paw and imploring him as best it could to have the stake plucked out. Androcles at first shrank back. But when he saw that the beast was in gentle mood, and realised what was the matter with its paw, he extracted what was hurting it and rid the Lion of its pain. The Lion therefore in joy at being healed paid him his fee by treating him as its guest and friend, and shared with him the spoils of its chase. And while the Lion ate its food raw, as is the custom of lions, Androcles used to cook his for himself. And they enjoyed a common table each as was his nature. And this was how Androcles lived for the space of three years. After a time, as his hair grew to an excessive length and he was troubled with a violent itching, he forsook the Lion and trusted himself to fortune. Then as he was wandering about he was caught, questioned as to whom he belonged to, and sent bound to his master in Rome. The master punished his servant for the injury he had done him and he was condemned to be given to the wild beasts to eat. It chanced that the same Libyan lion had also been caught and was let loose in the arena together with the young man destined for death, him who had shared that very Lion's home and dwelling. The man for his part did not know the Lion again, but the animal immediately recognised the man, fawned upon him, and letting its whole body sink down, threw itself at his feet. And at last Androcles recognised his host and throwing his arms round it, greeted it like a comrade returned after absence. But as he was thought to be a magician; a leopard also was let loose upon him. And when it rushed at Androcles the Lion came to the rescue of its former healer and remembering how they used to feed together, tore the leopard to pieces. The spectators, as was natural, were dumbfounded, and the man who was giving the shows summoned Androcles and learnt the whole story. And the report spread through the multitude, and the populace on learning the truth shouted aloud that both man and Lion must be set free. Memory is indeed one of the attributes of animals.

And there is a corresponding story to the same effect as the above . . . in Samos in front of Dionysus of the Open Mouth . . . , might be thought to know the lair also. For this too he must consult Eratosthenes, Euphorion, and others who narrate it.

## Book 8

8.1 Indian histories teach us the following facts also. Huntsmen take thoroughbred bitches which are good at tracking wild animals and are very swift of foot to places infested by these animals; they tie them to trees and then go away, simply, as the saying is, trying a throw of the dice. And if tigers find them when they have caught nothing and are famished, they tear them to pieces. If however they arrive on heat and full-fed they couple with the bitches, for tigers too when gorged turn their thoughts to sexual intercourse. From this union, so it is said, a tiger is born, not a hound. And from

this tiger and a bitch again a tiger would be born, although the offspring of this last and of a bitch takes after its dam, and the seed degenerates and a hound is born. Nor will Aristotle contradict this. Now these hounds which can boast a tiger for sire scorn to pursue a stag or to face a boar, but are glad to rush at lions and thereby to give proof of their pedigree. At any rate the Indians gave Alexander the son of Philip a test of the strength of these hounds in the following manner. They let loose a stag, and the Hound stayed quiet; then a boar, and it never moved; after that a bear, but the bear caused it no excitement whatever. But when a lion was let loose, and

'when' the Hound 'beheld it, then came wrath upon him the fiercer',

and as though it had seen its real adversary, it neither hesitated nor remained still but leapt upon the lion and clung to it with a vigorous grip, pressing and throttling it. So then the Indian who was giving the King this exhibition, knowing full well the Hound's power of endurance, ordered the men to cut off its tail. The tail was cut off, but the Hound paid no heed. So the Indian ordered one of its legs to be cut off, and cut off it was. But the Hound clung as fast as ever, and would not let go, as though the leg of some other creature unconnected with it were being cut off. Then another leg was cut off and still the Hound would not relax its bite; then a third, and it continued to cling; and after these the fourth, and still it was capable of biting. And finally they severed the rest of its body from its head. But the Hound's fangs maintained their original grip, while the head hung aloft on the lion, although the biter himself was no more. At this Alexander was grieved and amazed that the Hound in giving proof of its mettle had perished, a fate the reverse of a coward's, and had met its death by reason of its courage. Accordingly the Indian seeing Alexander's grief, presented him with four hounds of the same breed. And he was delighted to receive them and gave the Indian a suitable gift in return. And when the son of Philip received the four he forgot his grief over the first.

8.2 Every Hound that is good at hunting delights to catch unaided a wild animal and regards the catch as its prize, provided its master consents to this. Otherwise it preserves the animal alive until the huntsman comes up and decides what he wants to do with the capture. But if it comes upon a dead hare or boar it will not touch it, refusing to claim credit for another's labours and declining to appropriate what does not belong to it. From these facts it appears to have a certain natural love of distinction: it is not meat that it wants; it is victory that it loves. And it is worth hearing how the Hound behaves when it is hunting. It goes ahead of the huntsman, to whom it is attached by a long leash, and controlling its bark, tracks the game by scent. And so long as no game comes its way and it finds nothing, it goes forward rather despondently to judge from its looks; for all that, it goes ahead and leads the huntsman on with the utmost keenness and pertinacity. But if it tracks out some beast and comes upon some scent, then it halts. And the huntsman approaches while the Hound overjoyed at its good luck fawns upon its master, licks his feet, and resumes its original quest, advancing step by step until it comes upon the lair; further it does not go. So then the huntsman understands and with a low call gives the signal to the men with the nets. And they set the nets in a ring. Thereupon the Hound barks. The intention of its baying just then is to provoke the boar to rise in order that he may emerge and as he flees may be caught in the nets. And when the beast is captured, the Hound raises a loud cry of victory, as it were a hymn of praise, and is delighted and leaps about, like soldiers who have overcome their enemies. This is what Hounds do in dealing with boars and stags.

8.3 It seems that even Dolphins are more scrupulous than men in showing their gratitude and are not controlled by the Persian custom applauded by Xenophon. And what I have to tell is as follows. One Coeranus by name, a native of Paros, when some Dolphins fell into the net and were captured at

Byzantium, gave their captors money, as it were a ransom, and set them at liberty; and for this he earned their gratitude. At any rate he was sailing once (so the story goes) in a fifty-oar ship with a crew of Milesians, when the ship capsized in the strait between Naxos and Paros, and though all the rest were drowned, Coeranus was rescued by Dolphins which repaid the good deed that he had first done them by a similar deed. And the headland and caverned rock to which they swam with him on their backs are pointed out, and the spot is called Coeraneus. Later when this same Coeranus died they burnt his body by the sea-shore. Whereupon the Dolphins, observing this from some point, assembled as though they were attending his funeral, and all the while that the pyre was ablaze they remained at hand, as one trusty friend might remain by another. When at length the fire was quenched they swam away.

Men however are subservient to the wealthy and the seemingly prosperous while they are alive, but when dead or in misfortune upon them so as to avoid repaying them for past favours.

8.4 (i). It seems that even Fishes are both tame and tractable, and when summoned can hear and are ready to accept food that is given them, like the sacred eel in the Fountain of Arethusa. And men tell of the moray belonging to Crassus the Roman, which had been adorned with earrings and small necklaces set with jewels, just like some lovely maiden; and when Crassus called it, it would recognise his voice and come swimming up, and whatever he offered it, it would eagerly and promptly take and eat. Now when this fish died Crassus, so I am told, actually mourned for it and buried it. And on one occasion when Domitius said to him 'You fool, mourning for a dead moray!' Crassus took him up with these words: 'I mourned for a moray, but you never mourned for the three wives you buried.'

(ii). I have heard that the Egyptians assert that the sacred Crocodiles are tame, and if their keepers at any rate touch and handle them they submit and do not object; and they keep their jaws open when the keepers insert their hands and cleanse their teeth and pick out bits of flesh that have got between them. Further, the Egyptians assert that the aforesaid Crocodiles are endowed with prophecy, and adduce the following evidence. Ptolemy (which of the line it was, you must ask them) was calling to the tamest of the Crocodiles, but it paid no attention and would not accept the food he offered. And the priests realised that the Crocodile knew that Ptolemy's end was approaching and consequently declined to take food from him.

8.5 I have heard that some people practise divination by birds and devote themselves to their study and scrutinise their flight and the quarters of the sky where they appear. And seers like Teiresias, Polydamas, Polyeidus, Theoclymenos and many another are celebrated for their knowledge of this art, while men such as Silanus, Megistias, Euclides and the long tale of their successors were skilled in deciding upon the dispositions of entrails. Again, I have heard people assert that some divine by means of barley-corns, of sieves, and of small cheeses. And I have ascertained that there is a village in Lycia between Myra and Phellus called Sura where there are those who devote themselves to divination by means of fish, and they understand what it purports if the fish come at their call or withdraw, and what it signifies if they pay no attention, and what it portends if they come in numbers. And you shall hear these prophetic utterances of the sages when a fish leaps out of the water or comes floating up from the depths, and when it accepts the food or on the other hand rejects it.

8.6 It seems that donkeys are easily overcome and seized by wolves, and bees by bee-eaters, cicadas by swallows, and snakes by deer. And the leopard captures most animals, especially the monkey, by

its odour.

8.7 From Megasthenes I learn that a small fish occurs in the Indian Ocean, and that when alive it is invisible, since presumably it swims down in the depths, but that when dead it floats to the surface. Anyone who touches it faints to begin with and later on dies. And if one treads upon the chelydrus even without being bitten, as Apollodorus says in his work *Of Poisonous Animals*, death is inevitable. For he says that mere contact with the creature produces sepsis. And what is more, if anyone tries to administer medical treatment or help of any kind to the dying man he gets blisters on his hands, simply from having touched the man who trod on the snake. And Aristoxenus says somewhere that a man killed a snake with his hands and, though unbitten died notwithstanding. And his very clothes which he happened to be wearing at the time when he slew the snake, turned in a short while to putrefaction.

8.8 Nicander asserts that the slough of the Amphisbaena if wrapped round a walking-stick drives away all snakes and other creatures which kill not by biting but by striking.

8.9 A Dog burdened with a full stomach knows of a herb that grows on dry stone walls, and if he eats it he vomits all that is paining him, mixed with phlegm and bile, and a great deal of excrement also passes off; so he restores his health without any need of medical assistance. Further, he voids a quantity of black bile which if retained causes madness, a troublesome disease in Dogs. And when infected by worms Dogs eat the awns of corn, according to Aristotle. When wounded they have their tongue as a medicine, and with their tongue they lick the wounded place and restore it to a healthy condition; bandages, compresses, and the compounding of medicines they scorn. And another thing which Dogs have not failed to observe is that the fruit of the . . . fattens swine indeed but causes Dogs a pain in their haunches. And though a Dog may see a sow gorging itself with the aforesaid fruit, with great self-control it leaves it to the sow for all its seeming sweetness. Men however yield to those who prevail upon them to eat against their will, often to an altogether immoderate degree.

8.10 Elephants would not easily fail to notice an ambush. For instance, when they come near to the pit which elephant-hunters are in the habit of secretly digging, whether by some natural instinct or by some altogether mysterious faculty of divination they restrain themselves from going any further, and turn back and put up a most strenuous resistance as in war and try to overthrow their hunters and, thrusting their way through them, to seek safety in flight after overcoming their adversaries. So then there ensues a fierce battle and there is a slaughter of hunters and hunted. And this is how the battle is fought. The men take aim and hurl stout spears at them, while the Elephants seize upon any man that has fallen in their way, dash him to earth, trample upon him, and wounding him with their tusks inflict upon him a most pitiful and agonising death. And the animals attack, their ears in passion spread wide like sails, after the manner of ostriches which open their wings to flee or to attack. And the Elephants bending their trunk inwards and folding it beneath their tusks, like the ram of a ship driving along with a great surge, fall upon the men in a tremendous charge, overturning many and bellowing with a piercing, shrill note like a trumpet. And as those who are caught are trampled or smashed by the beasts' knees, a great sound of bones being crushed can be heard even at a distance, and men's faces, with eyes knocked out, nose battered, and forehead split, lose their distinctive features, and frequently become unrecognisable even by their nearest relatives. Others however escape contrary to expectation, in the following manner. A hunter has been caught, but the Elephant in its forward rush has overpassed him and has planted its knees upon the earth and has besides fixed its tusks in a thicket or in a tree-root or some similar object, and is held fast and can only with difficulty withdraw and pull them out. Meanwhile the hunter slips out and escapes. In such

a battle therefore it often happens that the Elephants are victorious, often however that they are defeated through the men designedly applying various means of scaring them. For instance, trumpets are sounded; the hunters make a din and a clash by beating their spears on their shields; now they light a fire on the ground, now they lift it up in the air; or again they launch burning firebrands like javelins and violently brandish great torches in full blaze before the faces of the animals. And as the animals dread and are dazzled by these things they are pushed back and sometimes forced to fall into the pit which till then they have kept clear of.

8.11 Hegemon in his poem, the *Dardanica*, among other things touching Aleuas the Thessalian, says that a snake was enamoured of him. And when he says that this Aleuas had 'golden' hair he is romancing; let me call it 'flaxen.' And he says that he was a neatherd on mount Ossa, as Anchises was on Ida, and that he pastured his cattle near the spring called Haemonia. (The spring also would be in Thessaly.) Now a snake of enormous size fell in love with Aleuas and crept up to him and kissed his hair and with its tongue licked and washed the face of its loved one and brought him as presents many of the spoils of its hunting.

Now if a ram was overcome by love of Glaucus the harpist, and a dolphin of a youth at Iasos, what is there to prevent a snake also from falling in love with a handsome shepherd, or the most keen-sighted of creatures from being a good judge of conspicuous beauty? So it seems that it is in fact a characteristic of animals to fall in love not only with their companions and kin but even with those who bear no relation to them at all but are yet beautiful.

8.12 The *Pareas* or *Paruas* (for this is the form preferred by Apollodorus) is of a red colour, has sharp eyes and a wide mouth; its bite is not injurious but gentle. That, you see, is the reason why those who first made these discoveries consecrated it to the god who is the kindest to man and gave it the name of 'servant to Asclepius.'

8.13 I have heard that in Ethiopia the Scorpions known as *Sibritae* (that is what the inhabitants commonly call them, as is natural) feed upon lizards, asps, sphondylae, cockroaches, and all creeping things, but I have ascertained that anyone who treads upon their excrement develops ulcers.

In Corcyra there occur water-snakes, as they are called, which round upon their pursuers and by blasts of foul breath make them pause in their attack and deter them. According to one account the *Typhlops* (blind-eyes), which people also call *Typhline* and *Cophias* as well, has a head nearly resembling the moray, but very small eyes. And the second of its two names, that is *Cophias*, it has derived from the fact that it is dull of hearing. But its skin is hard and takes a long time to cut through. And the *Acontias* (javelin-snake), they say, is amphibious and spends much time on dry land, lying in wait for every kind of living creature. And it shows skill in its fell designs, thus. It lurks hidden it may be in thoroughfares; often it crawls up some tree and coils itself up and concealing its head in its coils, spies quietly upon the passers-by. Then it launches itself on whatever is passing, be it brute beast or man. The creature is good at leaping and is capable of jumping as much as twenty cubits, if need be. And where it leaps it instantly fastens on.

8.14 If by chance Wolves come upon an Ox that has fallen into a deep pond, they harass and terrify him from the bank, never allowing him to swim across and get out on to land, and compel him after long torment and floundering to drown. Then the strongest Wolf in the pack leaps into the water and swimming up to the Ox, seizes its tail and begins to drag it to the bank; and a second wolf seizes the tail of the first and drags it, then a third drags the second, and a fourth the third, and this is repeated up to the last Wolf, which is standing out of the water. And having hauled out the Ox in this way,

they enjoy a feast. They lie in wait for a strayed Calf and leap upon it, and seizing it by the nose drag it along. But the Calf pulls against them and there is a fierce struggle for it, the Wolves trying to overcome it by force, the Calf fighting hard not to yield. And when they see it resisting with all its might in this way, they let go; whereupon the Calf by straining in the opposite direction is upset, and the Wolves leap upon it, tear open its belly, and devour it.

8.15 When Elephants are unable to cross a ditch the largest one in the herd throws himself into it and standing transversely bridges the gap, while the rest tread on his back, cross to the far side, and make off, but not until they have rescued him. And the way in which they rescue him is as follows. One of them on the bank puts his foot forward and allows the large Elephant to wrap his trunk round it. Meantime the others throw undergrowth and timber into the trench as fast as they can. And he mounts on these and clinging firmly with all his might to the other's foot is drawn up without difficulty.

There is in India a tract of land called *Phalacra* (bald). And the reason for the name is that any creature which eats the grass growing there loses its hair and its horns. Accordingly Elephants do not willingly go near this tract, but if they have drawn near to it they move away, since Elephants, like prudent men, avoid anything that is harmful.

8.16 The Sponge is directed by a small animal resembling a spider rather than a crab. For the Sponge is no lifeless or bloodless object engendered by the sea, but clings to the rocks like other creatures and has a certain power of movement in itself, though it needs, as you might say, someone to remind it that it is a living creature, for owing to some natural porosity it remains motionless and at rest, until something encounters its pores; then the spider-like creature pricks it, and it seizes what has fallen in and makes a meal. But when a man approaches to cut it off, the Sponge is pricked by the animal that lives in it, shudders, and contracts, and the trouble and labour that this causes to the fisherman is considerable, and no mistake.

8.17 I have indeed spoken of Elephants in a separate chapter, but I shall add the following ... it is most fitting to state that they have been gifted with temperance. For they seek intercourse with the female not as though minded to commit an outrage or from lust, but like men desiring a succession to their family and to beget children, in order that their common offspring may not fail but that they may leave their seed after them. At any rate once only in a life-time do their thoughts turn to love, when the female herself submits. Then when each one has impregnated its mate, thereafter it knows her no more. And they do not couple without reserve or in the sight of others but withdraw and screen themselves in thick trees or in some close-growing forest or in some deep hollow, which affords them ample means of hiding.

Now I said above that they were just, and I have already spoken of their valour. Their continence has been displayed in the present instance. Further, anyone who has leisure to learn of their detestation of evil should lend an ear and listen to this. The trainer of a tame Elephant had a somewhat elderly but rich wife. Now he was in love with another woman, and desiring that his wife's property should become hers, he strangled his wife and buried her, rash man that he was, close by the Elephant's manger, and married the other woman. So then the Elephant seizing hold of the new arrival with its trunk led her up to the dead body, dug it up, and laid it bare with its tusks, showing by its mere action what it could not express in words, and enlightening the woman as to the conduct of him who had wedded her; such was the Elephant's hatred of evil.

8.18 Anchovies (*engrauleis*, which some call *encrasicholi*, and I have even heard a third name applied to them, for some call them 'wolf-mouths') are a tiny fish, prolific by nature, and pure white in appearance. They are principally eaten by fish which swim in shoals, and so when scared they rush to one another, and as each clings to its neighbour, by their close cohesion they avoid falling an easy prey to plots upon their life. And so united is their mass when they have rushed together that even ships which run into them do not cleave it. Moreover should someone wish to drive an oar or a pole through them, they are not torn apart, but cling to each other as though woven together. But if you put your hand down and pull hard as if you were drawing grains of wheat or beans from a heap, you may catch some, with the result that they are often torn to pieces and that fragments of fish are caught, while the rest is left behind. For though you may get possession of the tail, yet the head remains with the other fish; or you may take home a head, but the rest of the fish remains in the sea. Their swimming in a dense, compact mass is called a 'draught,' and a single draught often fills fifty fishing-boats, as toilers of the sea inform us.

8.19 The Sow recognises the voice of the swine herd, and attends to his call even though it has wandered away. Evidence for this statement is to hand. Some miscreants beached their pirate vessel on the shore of Etruria, and proceeding inland came upon a fold belonging to some swineherds and containing a large number of Sows. These they seized, put them on board, loosed their cables, and continued on their voyage. Now so long as the pirates were on the spot the swineherds kept quiet, but when they were off shore in the roadstead 'and as far as a cry might carry,' then the swineherds with their accustomed cry called the Swine back to them. And when the Swine heard it they pressed together to one side of the vessel and capsized it. And the miscreants were drowned forthwith, but the Swine swam away to their masters.

8.20 They say that the Stork also is subject to jealousy. At any rate at Crannon in Thessaly a man who had married a beautiful wife of the name of Alcinoe left her at home and went away on his travels. So Alcinoe had intercourse with one of the servants. The Stork that was about the house got to know of this and would not tolerate it, but avenged its master. At any rate it sprang upon the woman and blinded her eyes.

I have earlier on spoken of jealousy on the part of a Purple Coot, then of a Dog in like case, and now of a Stork equally affected over a marriage that went wrong.

8.21 Sheep change their colour as their drink varies with the character of the rivers. The season of the year in which this occurs is the season of mating. So from being white they become black, and the contrary change of colour occurs. This commonly takes place near the river of Antandria and the river in Thrace whose name the neighbouring Thracians will tell you. And since the Scamander in the Troad turns the sheep that drink of it yellow, the colour which the flocks acquire has caused the name *Xanthus* (yellow) to be added to its original name of 'Scamander.'

8.22 In this respect also animals are good, viz at remembering to be grateful. There was a woman in Tarentum, admirable in other ways and particularly as a faithful wife. Her name was Heracleis. So long as her husband lived she cared for him with the utmost devotion. But when he died the woman took a dislike to life in the city and to the home in which she had seen her husband dead, and such was her grief that she went to dwell among the tombs and was content to remain by her late husband's sepulchre, constant to him who was beneath the soil. And once in summer when some storks, still fledglings, were essaying their first flight, one of them, the youngest, not having sufficient strength of wing, fell and broke one of its legs. So Heracleis seeing its fall and finding how



its leg was injured, took pity on the nestling and picking it up very gently wrapped up the wound, and tended it with fomentations and plasters, brought it food, gave it drink, and, when in due course it was strong and had grown its quill-feathers, set it free. And the stork, knowing by some strange instinct that it owed her the price of its life, departed. Later when a year had passed and spring was just beginning to brighten, the woman chanced to be warming herself in the sun, and the Stork which had been healed by her, seeing its benefactress, checked the speed of its wings and sinking nearer to earth came close, opened its bill, and disgorged a stone into the lap of Heracleis, and then flew off and settled on the roof. At first, naturally enough, she was amazed and startled out of her wits, and was at a loss to conjecture what this action could mean. And so she put the stone away somewhere indoors; later being woken in the night she saw that it diffused a brightness and a gleam, and the house was lit up as though a torch had been brought in, so strong a radiance came from, and was engendered by, the lump of stone. And when she had taken hold of the Stork and handled it she recognised the scar left by the wound, and knew that it was the very bird which had been the object of her pity and her ministrations.

8.23 If you catch a Smooth Lobster and remove it to a great distance, leaving a mark at the place where you caught it, you will find the self-same Lobster at the spot where it was captured: I mean, if you take it along the seashore and put it down somewhere near enough for it to be able to crawl into the sea.

8.24 'Hunter' is its name [the *Mynah* of India]; Nature has given it wings; it is allied to the tribe of thrushes; its colour is black; it has a musical voice. And it is called 'the Hunter,' and rightly so; for with its song it captivates the small birds that fly to it beneath the spell of its sweet music. Knowing therefore the natural advantage that it possesses, it appears to employ this gift of Nature to please itself and also to feed itself, for it delights to listen to its own voice, and pursues the birds that approach it and takes its fill of them. Anyone who hunts this bird and confines it in a cage, gets nothing for his pains, for he possesses a bird that refuses to sing, seeming by its silence to punish its captor for enslaving it.

8.25 I have spoken above of the benefit which the Egyptian Plovers confer upon Crocodiles, and Herodotus mentions it in his Account of Egypt. But what I did not mention, though I knew it, I will mention now, in order that others also may learn the facts.

The Egyptian Plover is one of the marsh-fowls, and ranges along the banks of rivers, feeding upon whatever it chances to pick up here and there, while the Crocodile provides it with the food that I spoke of. And the bird repays it by taking care of it and keeping watch on its behalf while it sleeps. For as it lies asleep the Ichneumon has designs upon it, and fastening on its throat has often throttled it. But the Egyptian Plover utters its cry, beats the Crocodile on the nose, rouses it, and eggs it on against its enemy. Now whether we should applaud the bird for its solicitude on behalf of an omnivorous and gluttonous animal, we shall know later. It is the special characteristics of these creatures that I have mentioned.

8.26 The *Trygon* (I am not speaking of the one that lives in the air [*i.e.*, the Turtle-dove] but of the one in the sea [*i.e.*, the Sting-ray]) swims when it wants to, or again raises itself and flies. Its sting, of which I have spoken above, is deadly. Yet that it should sting brute beasts and men and kill them on the spot is no matter for wonder. But what is startling is this which I am about to mention. If you apply the sting to the largest tree when in a thriving state, flourishing, and in full foliage, and stab

the tree, in a short while it sheds its leaves, and as they float down to earth the entire stem withers and seems as though scorched by the sun.

8.27 An Elephant emerges head first at birth, and the size of it when born is that of the largest sucking-pig. Several small Elephants follow a single mother, so they say. And if you want to touch the little ones when new-born, the mothers do not resent it but permit it. For they know that no one will lay hands on them to do them harm or punish them, but that everyone has kindly intentions and would pet them. For who would hurt such a little creature? But when they are hunted and fall into the pit and see that there is no escape for them, they forget the spirit that possessed them when they were free and readily go for any food that is held out to them and drink the water that is offered, and if wine is poured into their trunks they do not refuse that loving-cup.

8.28 Our great poet is supposed to call the Sturgeon (?) a 'sacred fish'. According to one account it is rare, but is caught in the sea off Pamphylia, though even there hardly at all. But if it is caught, the fishermen deck themselves with garlands to celebrate their good luck; they garland the fishing-boats as well, and put into port, as with cymbals and flutes they summon people to bear witness to their catch.

Others however consider that the Anthias, and not this fish, is sacred. And the reason is that in whatever part of the sea it appears, that spot is presumably bound to be free from savage creatures and there is peace between fish and everything that seeks its prey in the waters, while the fish themselves bring forth their young without fear.

But it is no business of mine to explore the mysteries of Nature, and rightly so, since the lion goes in fear of the cock, and so does the basilisk, moreover the elephant dreads a pig. But those who have much leisure to spend in seeking the reasons for these things will take no account of time, and for all that, will never come to the end of their researches.

## Book 9

9.1 When the Lion is advanced in years and heavy with age he is quite incapable of hunting and is glad to take his ease in caves or lairs in the jungle; nor has he the spirit to attack even the weakest of animals, for he mistrusts his age and is conscious of his bodily infirmity. Whereas his offspring confident in the vigour of their youth and their natural strength go out to hunt and bring the old one with them by pushing him along. Then, when they have come half the necessary distance, they leave him behind and give themselves to the chase. And when they have obtained enough for themselves and for their sire, with a magnificent and thrilling roar, even as banqueters summon a guest, so do these young children summon their aged father to the feast. And he comes softly, step by step, and almost crawling, and embraces his children, fawning upon them a little with his tongue as though he applauded their success, and attacks the meal and feasts with his sons. This is no order of Solon's to the Lions: it is Nature that teaches them — Nature that 'recks nought of laws' made by man. But she is a law that does not change.

9.2 Not only when he is alive and active do birds dread the Eagle, the king of birds, and cower down when he appears, but if one mixes his feathers with those of other birds, the Eagle's remain entire

and untainted, while the others, unable to endure the association, rot away.

9.3 Mice, besides being prolific creatures, bring forth many offspring at a single birth; and if by some means they happen to eat salt, then they bring forth a great number and far more than is customary. And when Crocodiles give birth they test the legitimate and the bastard offspring in this manner. If on being hatched a young Crocodile immediately seizes something, it is henceforward reckoned among the family and is loved by its parents, is believed to be, and is counted as, one of the Crocodiles. If however it remains inactive and is lazy and fails to seize some fly or gnat or earthworm or young lizard, the sire tears it to pieces as a poor creature, spurious, and no kin of his. And as these creatures act, even so do Eagles appear to test their legitimate offspring by the rays of the sun and to love them as the result of judgment and not of any feeling.

9.4 I have heard that the Asp's fangs, which one would be correct in styling 'poison-carriers,' have an exceedingly thin coating, so to say, round them, like membrane, covering them all over. So when the Asp fastens its mouth on a man, they say that these membranes part and the poison is ejected, and then again they close and unite. Again, the sting of the Scorpion has a kind of hollow core, so very fine as to be hardly visible. That is where they say the poison resides and is engendered, and directly the Scorpion strikes, the poison shoots forward along the sting and flows out. And this opening also, through which it passes, is so fine as to be invisible to the eye. But if a man spits upon it the sting is blunted and numbed and becomes incapable of wounding.

9.5 Even if a Bitch produces a number of puppies, it is nevertheless the one that issues first from the womb and the eldest of the litter that declares the sire. At any rate it bears the closest resemblance to him in every respect, while the rest are born as chance may dictate. In this matter Nature appears to pursue reason in setting the male which sows above the female which receives.

9.6 Here is another characteristic of Testaceans and Crustaceans. As the moon wanes they are in the habit of somehow becoming both emptier and lighter. Among Testaceans the purple shellfish, whelks, red thorny oysters, and those of the same species prove my statement; among Crustaceans, edible crabs, crayfish, lobsters, crabs in general, and all their kin. It is also asserted that the young of beasts of burden born when the moon is on the wane are less capable and feebler than others, and what is more, those who have knowledge of these matters recommend that animals born in this part of the month should not be reared on the ground that they are not of good quality. Whereas animals born at the new moon, as I learn, either utter their natural sound or drop. The Lion alone, as Aristotle says, does neither.

9.7 (i) Aristotle asserts that the Basse is extremely quick of hearing, and so too are the Chromis, the Saupe, and the Mullet. I have ascertained also that the Basse knows full well that there is in fact a small stone in its head, and this in winter becomes intensely cold and causes it severe pain. This is why at that season of the year it warms itself and devises this highly effective remedy against the cold due to the stone. And the Chromis, the Sea-bream, and the Maigre, I learn, do the same, for these fish also have a similar stone.

(ii) It seems that among fishes also there exist parasites. At any rate the Sucking-fish, as it is called, nibbles what the dolphin catches, and the dolphin is glad that he should, and willingly allows him a share. That is why the fish is exceedingly plump, like one gorged with a rich and abundant feast. And Theron in Menander's play boasts that he has led men by the nose and used them as his manger. And Cleisophus covered one of his eyes with a bandage out of compliment to Philip who had lost an

eye at the siege of Methone. Sucking-fish and dolphin are in my opinion friends and messmates, for whereas man understands flattery like other vices, brute beasts do not.

9.8 Here again is an example of the Elephant's strong affection for its young. Elephant-hunters dig trenches and these animals fall into them, and while some are captured, others are killed. You will learn from other sources how they dig these trenches, how they are shaped, how deep, and what the entrances to them are like. I however propose to reveal and demonstrate the Elephant's affection. When the mother sees her young one has fallen into one of the trenches, she does not hesitate, does not waste time, but rushing up at full speed, all courage and passion, hurls herself upon the head of her child, and the pair meet one and the same end, for the young one is crushed by the mother's weight; she falls on her head ... So those who doubt whether Elephants have a natural affection for their offspring are absurd.

9.9 Seals give birth on land, but by degrees lead their cubs down to the water and give them a taste of the sea. Then they lead them back to the original place of their birth, and again bring them down to the sea, and quickly lead them out, and by doing this many times they end by making them excellent swimmers. And they easily slide into life in the sea: their instruction affords an inducement, while Nature forces them to love the haunts and the habits of their mothers.

9.10 The Eagle is a predatory bird: it feeds upon what it can rob, and eats flesh. For it seizes hares, fawns, and geese from the courtyard, and other creatures. Only the Eagle which is called 'Zeus's bird' does not touch meat: for it, grass is sufficient. And though it has never heard of Pythagoras of Samos, for all that it abstains from animal food.

9.11 If one merely touches a Malmignatte, it kills, they say, without any violent pain. Moreover Cleopatra established that the bite of an Asp is exceedingly gentle, when as Augustus was approaching she made enquiries at her banquets for a form of death that should be painless: death by the sword, she was told, entailed suffering, as was confessed by those who were wounded; death by drinking poison caused distress, for it produced convulsions and pains in the stomach; whereas death from the bite of an Asp was gentle (πράος), or to use Homer's word ἀβληχρόζ (faint, mild). And there are some creatures that kill by a belch those that only touch them, as for instance the dipsas and the toad.

9.12 You will tell me that the Fox is a creature full of guile; this is the fox that lives on the land. But listen also to the wiles of the Fox-shark and learn the kind of things it does. Either it will not come near the hook at all, or else it swallows it and immediately turns itself inside out, reversing its body just like a garment, and in this way no doubt it gets rid of the hook.

9.13 Men say that there are certain spells to cause love; the Frog as a signal for sexual intercourse emits a certain cry to the female, like a lover singing a serenade, and this cry is called its croak, so they say. And when it attracts the female to itself they wait for the night. They cannot copulate under water, and they shun mutual embraces on land in the daytime. But when night descends they emerge with complete fearlessness and take their pleasure of one another.

Whenever Frogs utter their cry more loudly and more clearly than is their wont, it signifies that rain is coming.

9.14 I have often heard my mother say, when I was a child, that if a man touches a Torpedo, his hand is seized with the affliction corresponding to its name (torpor). And I have learnt from persons of

experience that if a man touches even the net in which it has been captured his entire body is numbed. And if one throws it alive into a vessel and pours salt water upon it, and if the fish happens to be pregnant and the time of its delivery is at hand, then it gives birth. And if one pours the water in the vessel over a man's hand or foot, the hand or foot is inevitably numbed.

9.15 Neither in the stings nor in the bites which they inflict do animals always retain the same force, but it is often augmented from some cause. For instance, if a Wasp has tasted a viper's flesh its sting is fiercer; and if a Fly has been near something of the same kind its bite is sharper and causes pain; the bite of an Asp too is rendered quite incurable if it eats of a frog. If a healthy Dog bites a man, it causes a wound and a burning pain, but if the Dog is mad, the bite is deadly. A seamstress was mending a shirt that had been torn by a mad Dog, when she somehow bit it with her mouth in order to stretch the shirt: she went mad and died. The bite of a human being when fasting is dangerous and hard to cure. And the Scythians are even said to mix serum from the human body with the poison that they smear upon their arrows to drug them. This serum somehow floats on the surface of the blood (and they know a means of separating it?). Theophrastus is a sufficient witness to the fact.

9.16 When a Snake sloughs its old skin (it does so at the beginning of spring), then is the time when it purges away the mist over its eyes and the dullness of its sight and what I may call the 'old age' of its eyes; and as it sharpens either eye by rubbing fennel along the edges it rids itself of this affliction. You see, after hibernating through the winter in some dark hole, it is short-sighted. And so the gentle warmth of the fennel cleanses the creature's vision which the frosts have numbed, and makes its sight keener.

9.17 When the Halcyon realises that it is pregnant it builds itself a nest to receive its brood; but it has no need of mud and a roof and houses, like the swallow which entering as an uninvited guest saddens the dawn with its twitter and even disturbs our slumbers at their sweetest; nor yet (does it use) its body but its beak alone as it applies itself to the aforesaid task in places away from man, weaving together and collecting the spines of the gar-fish, and by some mysterious means it binds together and encloses the fabric of its careful contriving. For some of the bones it fixes upright, others cross-wise (one would say that it was some woman skilled in weaving that was interlacing the woof with the warp), and makes the nest approximately round and bellying in shape, as though it were plaiting a weel. And when it has woven the aforesaid nest it takes it down to the sea, and there, as the waves flow gently in, the advancing surf puts the Halcyon's labour to a test. For the water encountering any part that is not watertight (penetrates the nest, and the Halcyon seeing this repairs it. But if you strike with a stone the parts which have been closely fitted, you will not pierce them. And if you try to cut them with steel, so well and truly have they been interwoven that they will not yield, any more than that linen corslet which they say Amasis gave as an offering to Athena of Lindus. And the mouth of this weel no other creature can enter or indeed detect at all: it admits the Halcyon alone. But not even a drop of sea water could trickle in, so watertight is the nest. And there, they say, rocked on the waves the Halcyon rears its young.

9.18 By the Nile there grows a herb, and it goes by the name of 'Wolf's-bane,' and it is truly named. For when a wolf treads upon it he dies in convulsions. That, you see, is why those Egyptians who worship this animal prevent this herb from being introduced into their country.

9.19 If a bird of the household falls into a vessel of wine and is drowned, they say that neither the wine nor any of the inmates of the house suffers any harm; whereas if it sinks in water, it causes the water to smell, and diffuses a foul odour in the surrounding air. But if a Gecko falls into wine and is

drowned, it does no harm. If however it falls into oil and dies, it makes the oil smell nasty, and on anyone who tastes it lice at once break out.

9.20 It is clear that the burning of a Stag's horn expels snakes. And Aristotle asserts that the stone which occurs in the river Pontus (it is in the territory of the Sinti and Maedi) if burnt also chases away snakes. Moreover he describes the nature of the stone as follows. If you pour some water upon it, it lights; and if when burning you hope to kindle it into a bigger blaze by fanning it, it goes out. They say that as it burns it gives off a smell more oppressive than bitumen. And Nicander agrees with this.

9.21 The island of Pharos (what I am about to tell you is reported by the Egyptians) was once infested with a great variety of snakes. But when Thonis the Egyptian King took under his charge Helen the daughter of Zeus (because Menelaus entrusted her to him while he was wandering through Upper Egypt and Ethiopia), he fell in love with her, and when he attempted to force her to lie with him, the story goes that the daughter of Zeus repeated the whole tale to the wife of Thonis (Polydamna was her name), and she on her side, anxious lest this alien should prove more beautiful than she, removed Helen to the safety of Pharos and gave her a herb disliked by the snakes there; so as soon as they were aware of this, the snakes went underground. But Helen planted the herb and in time it flourished and produced seed disagreeable to the snakes, and in Pharos such creatures have never recurred. Experts in these matters say that this herb is called *Helenion*.

9.22 Starfishes are marine creatures, and they too have a soft shell, but are the enemies of oysters, for they feed on them. And their method of assailing the oysters is as follows. The latter frequently open for coolness' sake and anyhow in order to feed themselves on whatever comes their way. Accordingly the Starfishes insert one of their limbs between the shells and take their fill of the flesh, the oysters being precluded from closing again. So much then for this characteristic of Starfishes.

9.23 Poets and the compilers of ancient legends, among whom is Hecataeus the chronicler, may sing of the Hydra of Lerna, one of the Labours of Heracles; and Homer may sing of the Chimaera with its three heads, the monster of Lycia kept by Amisodarus the Lycian king for the destruction of many, of varied nature, and absolutely invincible. Now these seem to have been relegated to the region of myths. The Amphisbaena however is a snake with two heads, one at the top and one in the direction of the tail. When it advances, as need for a forward movement impels it, it leaves one end behind to serve as tail, while the other it uses as a head. Then again if it wants to move backwards, it uses the two heads in exactly the opposite manner from what it did before.

9.24 There is, it seems, a species of frog which bears the name of 'Angler,' and is so called from what it does. It possesses baits above its eyes: one might describe them as elongated eyelashes, and at the end of each one is attached a small sphere. The fish is aware that nature has equipped it and even stimulated it to attract other fish by these means. Accordingly it hides itself in spots where the mud is thicker and the slime deeper, and extends the aforesaid hairs without moving. Now the tiniest fishes swim up to these eyelashes, imagining that the round, swinging objects at the end are edible; meanwhile the Angler lies in wait, never stirring, and when the little fishes are near to him, he withdraws the hairs towards himself (they are drawn in by some secret and invisible means), and the little fishes, whose gluttony has brought them close up, provide a meal for the aforesaid frog.

9.25 The Crayfish is the enemy of the Octopus. The reason is this: when the Octopus throws its tentacles round it, it cares nothing for the spines that spring from the back of the Crayfish, but wraps itself round and throttles it till it suffocates. This the Crayfish knows full well, and makes its escape.

The nature of the Crayfish is as follows. When it has nothing to fear, this fish moves in a forward direction, turning its feelers to either side, in order that the water encountering it as it swims may not thrust them back and hinder its advance. But if it is trying to escape, it goes backwards, relaxing its feelers completely, in order that, like one rowing with oars and moving lightly like a boat, it may withdraw to a great distance. If Crayfish fight with one another they raise their feelers, fall upon each other like rams, and butt their foreheads together. But a struggle between a moray and a Crayfish I have described earlier on.

9.26 They say that the dewy Water-mint and the Agnus-castus are a potent means of expelling snakes. The latter, you know, is strewn by the women of Attica on their pallets at the Thesmophoria. And it appears that the Agnus-castus is offensive to noxious creatures, and at the same time represses sexual appetite; from this fact it appears to derive its name. And the same noxious creatures have a dread of the herb known as rosemary frankincense.

9.27 From Theophrastus I learn the following. This great man mentions a certain herb and calls it by the name of 'Female-killer'; and if one puts it on a scorpion's back and lets it lie, the creature immediately shrivels. But the same writer says that it revives if you sprinkle some white hellebore upon it. Now I am in favour of Female-killer, but not at all of white hellebore. The reason is that I detest scorpions but love mankind. Callimachus relates how a tree that goes by the name of yew grows in Trachis, and if creeping things go near and touch it at all they die.

9.28 It is generally believed that the flesh of the Pig is sweeter than all others. And the fact is quite clearly proved by experiment. Whenever it eats a salamander, the Pig itself is unaffected, but kills those who taste its flesh.

9.29 In what respect the Euphrates, which flows between Parthia and Syria, is superior to other rivers I will explain some other time; but what the Parthians and Syrians know about it, and what is relevant to the present discourse, that I will now tell. Near to the spot where the river first rises certain Snakes breed which are deadly enemies to men, not however to the natives who have been brought up in their midst, but to strangers who have no connexion whatever with them. And they even punish visitors with death.

9.30 The Lion when walking does not move straight forward, nor does he allow his footprints to appear plain and simple, but at one point he moves forward, at another he goes back, then he holds on his course, and then again starts in the opposite direction. Next he goes to and fro, effacing his tracks so as to prevent hunters from following his path and easily discovering the lair where he takes his rest and lives with his cubs. These habits of the Lion are Nature's special gifts.

9.31 Consider what makes a good shepherd. Now the herdsman loves both his sheep and his goats, but he abhors the hiccups. This affliction often befalls man, and a surfeit induces hiccups in sheep and goats also. Accordingly herdsmen plant round the pens of the aforesaid animals a certain herb which counters this complaint, and the herb protects them against it. And those who have had experience maintain that this herb is beneficial to man also in the same affliction.

9.32 Those whose business it is to gather Henbane and the juice of Silphium dig trenches round the plants and stir the roots a little; they do not however pull them up with their hands, but capture or buy some bird and fasten one leg to the herb. And as the bird flutters it pulls up the herb. Both are serviceable to man's needs. But if a man has not these means to pull them up, then the treasure which he fancies he has found so happily and in answer to his needs is of no service.

9.33 This is not the occasion for mentioning all the benefits that accrue from Wormwood, how it eases the windpipe and even cleanses the lungs. But to a troublesome creature it is certainly an enemy: it destroys intestinal worm. This creature grows and grows and becomes a monster bred in the intestines, and is reckoned among the diseases of mankind, and what is more, among those which are hardest to cure and which will not yield to any mortal treatment. Hippys is sufficient witness to this. The account given by the historian of Rhegium is as follows. A woman suffered from an intestinal worm, and the cleverest doctors despaired of curing her. Accordingly she went to Epidaurus and prayed the god that she might be rid of the complaint that was lodged in her. The god was not at hand. The attendants of the temple however made her lie down in the place where the god was in the habit of healing his petitioners. And the woman lay quiet as she was bid; and the ministers of the god addressed themselves to her cure: they severed her head from the neck, and one of them inserted his hand and drew out the worm, which was a monstrous creature. But to adjust the head and to restore it to its former setting, this they always failed to do. Well, the god arrived and was enraged with the ministers for undertaking a task beyond their skill, and himself with the irresistible power of a god restored the head to the body and raised the stranger up again. For my part, O King Asclepius, of all gods the kindest to man, I do not set Wormwood against your skill (heaven forbid I should be so insensate!), but in considering Wormwood I was reminded of your beneficent action and of your astounding powers of healing. And there is no need to doubt that this herb also is a gift from you.

9.34 The Argonaut also is one of the polyps and has one shell. Now it rises to the surface by turning its shell upside down to prevent it from taking in salt water and being thrust down again. And when it is on top of the waves, if the weather is calm and the winds are at rest, it turns its shell (which floats like a boat) on its back, and letting down two tentacles, one on either side, with a gentle motion rows and propels its natural vessel. And if there is a wind it extends still further what up till now were oars, using them as rudders, and raises other tentacles between which there is a web of most delicate texture, and this it spreads and turns into a sail. And in this way it navigates so long as it has nothing to fear. If however it is afraid of some of the larger and stronger fish, it submerges and fills its shell and sinks with the weight of water, and by disappearing escapes from its enemy. Then when it has peace again it rises and resumes its sailing. It is from these activities that it derives its name.

9.35 They say that men have explored the sea to a depth of 300 fathoms, but not as yet beyond that. Whether there are fishes and animals swimming at an even greater depth, or whether even to them these regions are inaccessible, although the gods of the sea and also the overlord of the moist world have their allotted dwelling there — these are matters into which I shall not enquire too closely, and no one else informs us.

9.36 There is, it seems, a fish of the species mullet which is accustomed to live and to feed among rocks, and is yellow in appearance. There are two names for it in common use, for some call it 'Adonis,' others 'Exocoetus' ['sleeping out of the water']. For, you see, when the waves are lulled in places where the water is calm and smooth, it runs aground, borne forward by the force of the wave, and spreading itself upon the rocks, sleeps a deep and tranquil sleep. And it is well aware that there is peace between it and all other creatures, though it dreads all birds that are or are reputed to be nurslings of the sea. And so if one appears, the fish leaps up and dances as nature has taught it with movements that, one might say, baffle description, until it jumps off the rock, falls into the sea, and is safe. People like to call it 'Adonis' because it loves both land and sea, and those who first gave it



this name were hinting (so I think) at the son of Cinyras whose life was divided between two goddesses; one who loved him was beneath the earth, the other above.

9.37 A twig of one tree will grow on the stock of another to which it often bears no relation. And Theophrastus, who has traced the cause of this in a thoroughly scientific way, explains the cause: small birds eat the blossoms of trees and then as they sit upon the trees void their excrement. And so the seed dropping into hollows and cracks and cavities, and being watered by the rains of heaven, produces the same wood as that from which it sprang. Thus you will see a fig-tree in an olive-tree, and the same with other trees.

9.38 The Sea-sheep and the *Hepatus* as it is named, and what fishermen are accustomed to call the *Prepon* have their lairs in the recesses of the sea. They are of enormous size to look at but sluggish swimmers, and range to and fro around their lairs, and so it comes about that they never abandon their hiding-places. But they lie in wait for fish of weaker species that swim past. The Hake too may be reckoned as belonging to this class. More than any other fish does it dread the rising of the Dog-star.

9.39 It seems that the family of Blister-beetles is produced in fields of wheat and on poplar-trees plants and on fig-trees also, as Aristotle says; and Caterpillars are produced among peas, and certain Spiders among bitter vetch, and the Leek-cutter, as it is called, among leeks. And in the cabbage is born a kind of worm which derives its name from its habitat. At any rate it is called the Cabbage-caterpillar. The apple-tree also produces a creature which frequently destroys the fruit of this tree, although it may help women who are still of an age to bear children to conceive. How this happens another shall tell.

9.40 It seems that every creature knows in which part of its body its strength resides, and this gives it their confidence, for when attacking it employs it as a weapon, when in danger as a means of defence. For instance, the Swordfish defends itself with its snout as with a sword; hence its name; and the Sting-ray with its sting, and the Moray with its teeth, and well it may, because it has a double row of them.

9.41 The domestic Mouse is a timorous and feeble creature and is scared by noise and trembles at the squeak of a marten. Field-mice also are timorous, whereas the Sea-mice. are bolder than the domestic animal. Though their body is small their courage is irresistible, and this they derive from two weapons, their tough skin and their powerful teeth. And they fight even with fish of greater bulk and with the most skilled fishermen.

9.42 The Tunny is aware of the changes of the seasons and knows precisely when the solstices occur and has no need whatsoever of persons skilled in celestial matters. For in whatever place the beginning of winter overtakes these fish, there they are glad to remain at rest without stirring, and there they stay until the coming of the equinox. Aristotle bears witness to this. And that they see with one eye and not with the other is admitted by Aeschylus when he says

'Casting his left eye askance like a tunny.'

And they pass into the Euxine, keeping the land on their right, on which side in fact they look out. Contrariwise when issuing from the Euxine they swim along the opposite shore and hug the land, taking the utmost precaution to safeguard their life by means of the eye which sees.

9.43 The first shell of the common Crab splits and, just as snakes slough their 'old age,' so do these creatures put off their shell. And directly they perceive that it is coming away from their flesh they move frantically in every direction in their search for more food, in order that they may become inflated by the additional bulk and so break off their shell. And when they have contrived to slip out of it and are free, they lie on the sand exhausted like dead bodies. But their growing shell causes them anxiety while it is still rather pliable and tender. Gradually however they gather themselves together and come to life, as it were, and begin by eating sand. But as long as their outer covering consists of membrane, for so long are they timid and utterly lacking in courage. When however the membrane begins to harden and to assume the nature of a shell, then they cast aside their fears, and the protection of their covering and their full suit of armour, as you might call it, gives them the same confidence as a shield would.

9.44 The race of men known as Troglodytes is famous, and derives its name from its manner of living. Snakes are afraid of them, the reason being that the men eat them.

Snakes when engaged in coupling emit a most offensive odour.

9.45 If a field, or if trees with fruit upon them are close by the sea, farmers often find that in summer Octopuses and Osmyluses have emerged from the waves, have crept up the trunks, have enveloped the branches, and are plucking the fruit. So when they have caught them they punish them. And as quittance for what the aforesaid fish have reaped they provide the owners of the pillaged fruit with a feast.

9.46 'Migrants' is the name for marine creatures that are clever at knowing the transition of the Seasons. At any rate at the beginning of winter they escape from the frosts and remain at rest and are glad by so remaining to keep warm, sharing their warmth in brotherly fashion. Then in the spring they begin to swim greater distances and feed not only upon what comes their way but on what they have sought for and tracked down.

9.47 If one crushes Sea-urchins while still alive within their shells and with their spines protruding and then throws one bit here and another there into the sea and leaves them, they come together again and join up: they recognise their related fragments, and attaching themselves grow together. And it is by some marvellous and peculiar force of Nature that they become whole again.

9.48 With a view to increasing the offspring of their animals their keepers and herdsmen at the mating season take handfuls of salt and of sodium carbonate and rub the genitals of their female asses and goats and mares. These substances produce in the animals a greater appetite for sexual intercourse. Others rub their parts with pepper and honey; others again with sodium carbonate and nettle-seed. And some have in fact applied Cretan alexanders and sodium carbonate. And from the consequent irritation the females of a herd cannot contain themselves but go mad after the males.

9.49 There is not one of the largest Cetaceans that comes near the shore or the beach or 'leprous' (that is, rocky) spots or into shallow water: they live in the deeps. The largest of them are the Sea-lion, the Hammer-headed Shark, the Sea-leopard, the great Whales, the Pristis, and the fish called Maltha. This last monster is a terrible antagonist and invincible. The Ram-fish also is a creature to be dreaded and is dangerous, even if it emerges at a distance, owing to the upheaval in the sea and the wave which it creates. The Sea-hyena too is no auspicious sight for seafarers. As to Sharks, I have spoken above of their different kinds and of their strength.

9.50 Sea-calves are marine animals, and on headlands and projecting rocks they utter a kind of ominous cry and a very deep roar. And moreover whoever hears this sound, for him there is no escape, but he dies soon after.

The Whale too comes out of the sea and warms itself in the sun. But Seals emerge for choice when it is dark, although they do in fact sleep on shore at midday. Homer knew this, and in the Odyssey he has represented Menelaus explaining to Telemachus and Pisistratus this habit they have of resting, when he was telling them of what happened at Pharos and of the sea-god Proteus and of the prophecy which was uttered by the aforesaid Proteus.

9.51 I have spoken above of the Red Mullet, but what I did not mention then I will now. At Eleusis it is held in honour by the initiated, and of this honour two accounts are given. Some say, it is because it gives birth three times in a year; others, because it eats the Sea-hare, which is deadly to man.

I shall perhaps recur to the Red Mullet.

9.52 Squids, Flying Gurnards, and Flying-fish when scared fly and leap out of the sea. Squids leap furthest with the aid of their fins and rise high and are borne along together in flocks like birds. Flying-fish wing their flight at a lower level. The Flying Gurnards however move at so little distance above the surface of the sea, that you can hardly tell that they are not swimming but flying.

9.53 It seems that Fishes roam and wander about, some in masses, like troops of animals or bands of hoplites marching in ranks or in lines; others advance in an orderly column; others again you would say were in companies. Others are numbered off by tens and swim together in that formation; there are even some that swim in couples, while there are others that remain at home in their lairs and spend their lives there.

9.54 I have ascertained that skilled herdsmen when wishing to fatten their animals, remove their horns. And when they wish to stimulate their he-goats to couple, they rub perfume on their nostils; they even anoint their chins as well. On the other hand they restrain an excessive appetite by tying a cord round the middle of the animals' tails. And Aristotle asserts that mares miscarry if for some length of time they smell an extinguished lamp-wick. I have heard also of this device to stop house-dogs from running away: they measure the length of their tail with a rod, smear the rod with butter, and then give it to the dog to lick. And the dogs remain at home, they say, as though they were fastened up.

9.55 Here is another peculiarity of Dogs. They will not bark if one approaches them holding the tail of a marten; but after cutting off the said tail of the captured marten, one must let it go alive. And a Donkey will not bray if you suspend a stone from its tail, so they say.

9.56 In the season of summer when the sun's blaze is at its strongest Elephants smear one another with thick slime: this affords them coolness and is more agreeable to the aforesaid animals than a home beneath a cave or embowered in trees and branches. They are good at tracking by scent and have a very keen sense of smell. At any rate on the march one precedes another, and the leader (they move in single file) takes note of the grass at his feet, and when he realises from the brushing that men have passed that way, he pulls up the grass and gives it to the elephant behind him to smell, and he in turn to the one behind him. And this exchange, as you might call it, goes through the whole herd, until it comes to the one who is bringing up the rear, when he trumpets loudly. Whereupon like soldiers at a signal they turn aside to vales and thickets in the mountains or to low-lying marshes or

even to level country where the bushes are dense. But at all costs they avoid land which is trodden by men, for man is a creature whom they suspect as their worst enemy. And when their feeding-grounds fail some of them dig up roots and eat them, while others go off in search of fodder. And the Elephant that is the first to find what he is seeking turns back and calls his fellows and leads them to his lucky discovery.

9.57 In the severest winter when the sea is stormy and the winds are blowing fierce and strong, Fish dread their native and beloved sea. And some of them heap up sand with their fins and so covered keep themselves warm, while others slip beneath some rock and are glad to rest sheltered from the cold. Others again hasten down to the recesses of the sea and there below in the depths avoid the agitation from above. For, men say, the fury of the waves does not at that depth swell and batter them as it does above. But at the beginning of spring when the sky grows bright and plants begin to put forth their leaves and the fields to wave with their natural herbage, the Fish observing that the sea is smooth and calm, mount up and leap about and swim close to the shore as though they were returning from a long journey.

9.58 These, it seems, are the three creatures which from the smallest beginnings grow to the largest size: among aquatic animals the Crocodile, among birds the Ostrich, and among quadrupeds the Elephant. And Juba relates that his father possessed an Elephant of a great age that was descended from remote ancestors; and that Ptolemy Philadelphus had an Ethiopian Elephant which had lived for many years and partly from its association with men and partly from its training had become exceedingly docile and gentle. He also tells of an elephant from India which belonged to Seleucus Nicator, and he says moreover that it survived down to the supremacy of the Antiochi.

9.59 All Fish that have a river or some lake near to their native sea, when they are about to spawn swim out of the salt water, choosing in preference to the waves water that is calm and not at all upheaved and lashed by gales. For the tranquillity of river and lake is well adapted to receive their offspring and to preserve their young from harm and from attack, both for other reasons and especially because of the absence or paucity of savage creatures. And lakes and rivers normally enjoy this freedom. That is the reason why the Euxine abounds in such a quantity of fish: it has not learnt to foster monsters. If it does breed the seal and dolphins, they are of the smallest, but from all other pests the fishes here are protected.

9.60 Pipefishes are slender, and having no womb to contain their foetus they are unable to endure the growth of their young within their bodies, but burst open; and in this way they do not give birth to, but eject, their offspring.

9.61 It is said that the traces and indications of the bites of the Asp are far from evident or easy to detect. And the reason for this is, I learn, as follows. The Asp's poison is exceedingly sharp and spreads very rapidly. So when the Asp fastens on a man the poison does not remain on the surface but penetrates to the inner passages of the body and disappears from view and from the skin before one's eyes, and presses inwards. That, you see, is why the manner of Cleopatra's death was by no means easily recognised by Octavian's companions, but only after a time when two punctures, hard to detect and discover, were observed, and through them was revealed the riddle of her death. Besides, marks of the Asp's trail were visible, and they were clear to persons acquainted with the movements of these creatures.

9.62 When Pompeius Rufus was Aedile at the Panathenaea a medicine-man, one of those who keep snakes for show, amid a crowd of his fellow-practitioners applied an asp to his arm in order to

demonstrate his skill, and was bitten. Thereupon he sucked out the poison with his mouth. He failed however to swallow some water afterwards, there being none at hand although he had got some ready (the vessel had been upset by an act of treachery), and as he had not washed off the poison and thoroughly rinsed his mouth he passed away after, I believe, two days without suffering any pain, though the poison had little by little reduced his gums and his mouth to putrescence.

9.63 When spring is at its height and the earth is putting forth her blossoms, animals are filled with an amorous impulse and bethink them of wedlock, and all that dwell in mountain or sea or that fly in the air desire to embrace one another. Among the Fishes there are some that rub off their eggs, massed and clinging together, on the sand; others as they swim spawn a great quantity of eggs, most of which are swallowed by those that swim in the rear. In fact the males lead the way and scatter milt, and the females that follow, open-mouthed and quite insatiable, swallow it. This is their method of coupling. I have explained above how some fishes actually live with the females and look after them as though they were their wives, and that even among the various kinds of fishes the fires of a sort of jealousy break forth.

9.64 Aristotle, and Democritus before him, and third in order Theophrastus assert that fish are not nourished by salt water but by the fresh water that is mingled with the sea. And since this seems almost incredible, the son of Nicomachus, wishing to confirm the statement by actual practice, says that in every sea there is some drinkable water, and that it can be proved in this way. If one makes a thin, hollow vessel of wax and lets it down empty into the sea, having attached it so that it can be hauled up, after a night and a day it is, when drawn up, full of fresh and drinkable water. And Empedocles of Agrigentum asserts that there is some fresh water in the sea, not indeed perceptible to all, though it does nourish fishes. And this sweetening of the water in the brine he says is due to natural causes, which you may learn from his writings.

9.65 It is said that those who have been initiated into the Mysteries of the two goddesses will not touch Dog-fish, for (they say) it is no clean food, since it gives birth through its mouth. Some however maintain that it does not do so, but that when its young have been frightened by attempts on their life, it swallows and hides them away, and that when the scare has passed, it again ejects them alive. And these same initiates would not taste of a Red Mullet, nor would the priestess of Hera at Argos. The reasons for this I know that I have explained above somewhere.

9.66 I have not forgotten that I have in a previous passage told of the mating of Viper and Moray and how they couple, the Moray emerging from the sea, the Viper from its den. But what I did not tell, I now will. When the Viper intends to couple with the Moray, in order to appear gentle as befits a bridegroom, he disgorges and throws up his poison, and then with a soft hissing sound, as though raising a kind of pre-nuptial wedding chant, summons his bride. And when they have together completed their amorous revels, the fish makes for the waves and the sea, while the snake gulps down his poison again and goes back to his native haunts.

## Book 10

10.1 The Elephant is seldom in love, they say, for, as I have remarked earlier on, it is sober. And yet I learn of Elephants experiencing the passion of love, and the tale is one to excite astonishment. And this is what I have learnt.

A man who had some knowledge of the method of hunting these animals obtained leave from the Roman Emperor and set out to hunt them in the manner of the natives of Mauretania. He tells in his narrative how he saw a young female Elephant, comely as Elephants can be, coupling with a young and beautiful male, while another older male (whether it was the husband or the lover of the aforesaid female) was furious as though it had been scorned. For inflamed with violent passion it rushed forward and coming up to the young and beautiful Elephant, fell upon it and began to fight, like a man filled with resentment over the conduct of his wife or his mistress. And the two dashed together with such force that both damaged their tusks. And neither was victorious, but the hunters separated them by hurling missiles at them, for the animals were helpless as soon as they were deprived of their weapons. So a lovers' contest between elephant lovers, equally balanced up to the end, was there brought to a close. And Paris was being dragged along by Menelaus and was being throttled by the thong that was pressing him beneath his helmet, and the son of Atreus

'would now have haled him away and won renown unspeakable',

had not the thong snapped, and had not the daughter of Zeus and Dione (*i.e.*, Aphrodite) snatched him away after his most shameful and unmanly fight: and he departed, the coward, and slept with the adulteress.

10.2 It appears that Fish are not eager for sexual intercourse at the same season, but some couple in spring, others feel the urge in summer, others in the autumn, in others again the aforesaid desire is gradually kindled during the winter. The majority after giving birth once a year, cease; though I am told that the Basse gives birth twice, whereas the very name of the Red Mullet (τρίγλη) proves, so they say, that it does so thrice.

10.3 Herodotus states that Camels have four thigh-bones in their hind-legs, and the same number also of knees, but that their genitals between their hind-legs are turned in the direction of the tail.

10.4 Herodotus states that the Sheep of Arabia have tails of abnormal length compared with other sheep. And the same writer informs us that there are two kinds of Sheep, adding that one kind has tails so long as to measure not less than three cubits. And if one were to allow the Sheep to trail their tails after them, they would be full of sores from rubbing along the ground. All that the shepherds can do is to contrive small carts which support the tails of these animals and prevent them from getting sore. But the other kind of Sheep, he says, has broad tails as much as a cubit wide.

10.5 Snails know that partridges and herons are their enemies; so they escape from them, and in places where these birds feed you would never see snails crawling about. But the snails which they call *Areiones* deceive and elude the aforesaid enemies by natural astuteness. Thus, they emerge from

their native shells and feed without anxiety, while the birds which I mentioned swoop upon the empty shells as though they were the actual snails, but finding nothing, throw them aside as useless and go away. But the *Areiones* return and pass each to its own house, having eaten their fill of food and having preserved their lives by their deceptive migration.

10.6 It seems that the Spanish Mackerel of the Euxine imitate the Persian King who spends the winter at Susa and the summer in Ecbatana. For these fish pass the winter in the Propontis as it is called, since that region is warm, but in the summer they live about Aegialus, because the first-named sea affords them gentle breezes.

10.7 I am informed that when Cooks who are masters of their art wish the stomachs of Red Mulletts not to burst in the cooking, they kiss their mouths. And if this is done the fish are preserved whole, so they say.

10.8 The female Dolphin has breasts like a woman and suckles its young with a liberal and copious young supply of milk. And they swim in a body, but separated according to age. In the front rank are ranged the young and tender, after them swim the full-grown ones. The Dolphin loves its offspring and is an affectionate creature, anxious for its children, and in order to protect them, as with soldiers in line of battle, some are with the front rank, others with the second, others with the third. The young ones swim in front, after them swim the females, and the males bring up the rear while they superintend and guard closely their offspring and their wives as they swim. What, O noble Homer, would Nestor say to this — Nestor, whom you celebrate as the best tactician among all the heroes of his day

10.9 Some maintain that the difference between the *Echis* and the *Echidna* is one of sex and not of kind, the former being the male viper, the latter the female. Others however consider that the difference is one of kind, and that the latter belongs to one species and the former to another. And I hear some say that those who have been bitten by the *Echis* are seized with convulsions, whereas victims of the *Echidna* are not. But others assert that the bite caused by the *Echidna* is white, unlike that of the *Echis* which is livid. And Nicander says that in the bite which the *Echis* implants traces of two fangs are visible, but more if it is an *Echidna* that has bitten.

10.10 It is worth relating what men do after a successful Elephant-hunt to make the creatures docile and tame. First of all they lead them away bound into a wood a little distance from the trench in which they have captured them, keeping them apart by ropes and not allowing them either to run forward or to stop and pull back. Next they fasten each beast to a very large tree at a measured distance from the next one so that they can neither spring forward nor retreat backwards to any extent through being free to leap about and work mischief. And by refusing them food and by starvation they drain away their excessive strength and power, and gradually reduce their spirit and their inflexible determination, so that they forget their hitherto indomitable fierceness and abandon their former temper. The keepers of these animals go up to them and offer them food from their hands, and the Elephants under stress of need take it and do the men no harm, and already begin to wear a mild and fatigued expression. But those that are extremely powerful and full-grown, after bursting their bonds and tearing up trees with the points of their tusks and with their trunks, even smashing some by their onset and by assailing them, have with difficulty and only after a long while been tamed sometimes by starvation sometimes by pleasant food, at other times by means of goads. While these animals are being tamed their food consists of very large loaves of bread, barley, dried

figs, raisins, onions, garlic, honey in large quantities, bundles of mastic branches and of palm-leaves and of ivy and any edible and familiar substance which is for that reason welcome to them.

10.11 Those who condemn all fishes without exception to silence are ignorant of their nature, because there are those that whistle and those that grunt. The Gurnard grunts, so too do the Chromis and the Caprus, as Aristotle says. The John Dory whistles; the Cuckoo a (or 'Piper') has a voice which resembles that of the bird whose name it bears and makes a similar sound.

10.12 To the eye the Elephant is a mass of flesh of enormous size, but his flesh is not edible, excepting his trunk, the lips of his mouth, and the marrow of his tusks. But it seems that the fat of an Elephant is detested by poisonous creatures, for if a man rubs himself with it or burns some, they flee away to a great distance.

10.13 The variety of colour and of shape in the fauna of Arabia might well put anyone skilled in painting to the test, not only in the case of powerful and noble animals but even of the more insignificant, the locusts and the snakes; for the markings on them look like gold. The fish, which enjoy an even more richly wrought colouring, are an astonishing sight. And the oysters in the Red Sea are not without the same glamour, for they are encircled with rings of fiery hue, and to look at them you would say that with the blending of their colours they were copying the rainbow, Nature having painted parallel stripes upon them. And the pearl, so celebrated among fools and admired by women, is also a nursling of the Red Sea, and they tell a marvellous story of how it is produced when lightning flashes upon the open shells. So then these shells which are the mothers of the aforesaid pearls are sought for when the weather is fine and the sea smooth. And the seekers collect them and extract this object which delights the hearts of the luxurious. One may find a small pearl even in the largest shell and a large one in a small shell; and this one contains none, and that not more than one, and many contain a number. Some assert that as many as twenty have been attached to a single shellfish. Now the shell is the flesh, and these pearls cling to it like a thorn. But if one were to open the shell prematurely, that is before the birth-process is complete, one would find the flesh indeed, but it will not contain the object of one's quest. The pearl, it seems, is like a stone produced by petrification, and it is not its nature to contain or to admit even a drop of moisture. In the opinion of those who trade in pearls and those who buy them pearls that are pure white and large are the most beautiful and the most highly esteemed, and I can avow that many of those who make a livelihood by them have become wealthy. And I am also well aware that when these stones have been extracted and the shellfish have been released after giving up the aforesaid coveted object as ransom for their lives, they have gradually produced another one. If however the animal that fosters the pearl dies before the pearl is extracted, as is sometimes reported, both pearl and flesh rot away and perish. It has a naturally smooth and well-rounded contour, but if a man should want by artificial means to make round and smooth some stone not naturally so, the pearl confounds his design, for it declines to yield and develops roughnesses, thereby denouncing the plot that has been laid to secure its beauty.

10.14 The Egyptians appear to regard the Hawk as sacred to Apollo, calling the god 'Horus' in their own language, and they regard the birds with wonder and are right in saying that they belong to the aforesaid god. For Hawks are the only birds that can face with ease and without pain the rays of the sun and are not the least dazzled; and while they fly at an immense height the divine fire does not trouble them at all. Moreover observers say that the Hawk flies upside down, like a man swimming on his back, and in this way, you see, it looks at the sky and the all-surveying sun with complete freedom and without flinching. It is the bitter enemy of snakes and venomous creatures. At any rate



no snake, no scorpion, nor indeed any other product of noxious matter would escape its notice. Fruits and seeds it will not touch; it delights to feed on flesh and drinks blood, and on these it feeds its young; it is also passionate in lechery. If the bone from its tibia is put beside gold it attracts and draws it to itself by some inexplicable fascination, persuading it to follow even as, they say, the stone of Heraclea somehow bewitches iron. The Egyptians assert that the Hawk's life extends to as much as five hundred years, and they do not convince me: I merely report what I have heard. Homer, they say, seems to hint that the Hawk is beloved of the child of Zeus and Leto (*i.e.*, Apollo) when he says

'And down the hills of Ida he went, like unto a swift hawk, the slayer of doves.'

10.15 The Scarab is a creature of which there is no set female, but it pours its semen into the heap which it rolls up. After doing this and keeping the heap warm for eight-and-twenty days, on the following day it brings forth its young. Among the Egyptians the fighting class wore a Scarab engraved on their finger-rings, their ruler intimating thereby that those who fight for their country must at all costs and in every way be men, because the Scarab has in it nothing of the feminine element.

10.16 The Pig in sheer gluttony does not spare even its own young; moreover if it comes across a man's body it does not refrain from eating it. That is why the Egyptians detest the animal as polluted and omnivorous. And sober men are accustomed to prefer those animals which are of a gentler nature and have some sense of restraint and reverence. At any rate the Egyptians actually worship Storks, because they tend and respect their parents in old age; and these same Egyptians pay honour to vulpanders and hoopoes, because the former are fond of their offspring, and the latter show reverence to their parents. And I learn that Manetho the Egyptian, a man who attained the very summit of knowledge, says that one who has tasted of sow's milk becomes covered with leprosy and scaly eruptions. And all the peoples of Asia loathe these diseases. And the Egyptians are convinced that the Sow is an abomination to the sun and the moon. Accordingly when they hold the festival of the moon they sacrifice Pigs to her once a year, but at no other seasons are they willing to sacrifice them either to her or to any other god. But the Athenians sacrifice Sows at the Mysteries and very properly, for they ruin the crops and frequently by trampling upon the new ears of corn break some before they are ripe and uproot others. But Eudoxus asserts that the Egyptians refrain from sacrificing Sows, because when the corn has been sown they drive in herds of them, and they tread and press the seed into the soil when moist so that it may remain fertile and not be consumed by the birds.

10.17 Elephants when withdrawn from the country to which they are accustomed, though tamed at first by captivity and hunger and after that by food and a varied diet, nevertheless do not erase from their memory the spell of the country that fostered them. At any rate the majority die of grief, and some have actually lost their sight through the floods of tears past measuring which they have shed. And they are brought on board ships by means of a bridge on either side of which boughs fresh and in full leaf have been fixed, together with other greenery that extends the whole length in order to deceive the beasts. For if the Elephants see these things they imagine that they are still walking on firm ground, and this verdure does not allow the sea to be visible. But the water close to the shore from which they must sail is shallow and not deep, and the cargo-vessels are some distance out. That is why there is need of the bridge and the device of a ruse contrived with the boughs and greenery aforesaid.

10.18 I have heard that the Ram during the six months of winter lies down upon its left side, and sleeps so whenever sleep overtakes and constrains it. But after the spring equinox it rests in the reverse position and lies upon its right side. So at each equinox the Ram changes its way of lying down.

10.19 The inhabitants of Syene regard the Phagrus as sacred, and those who dwell in Elephantine, as it is called, the Maeotes. (This also is a species of fish.) And the reverence which both peoples pay to either kind has its origin in this: when the Nile is about to rise and overflow, these fish come swimming in advance, as though heralding the coming water, and gladden the anxious hearts of the Egyptians with fair hopes, being the first to realise the advent of the flood and foretelling it by some marvellous natural faculty. Moreover the aforesaid peoples are accustomed to add, concerning their respect for the fish, that they never eat one another.

10.20 It seems that there are other Shellfish besides in the Red Sea, whose shells are not smooth but have certain grooves and hollows in them. These shells have sharp lips, and when they close they fit into one another, as they make the points interlock, so that it seems as if the teeth of two saws came together. And so if they catch any fisherman swimming and bite any part of him they cut it off, even though there be a bone within the bitten part; more than that, if they bite at a joint, they cut it off at once; nor is that to be wondered at, for their bite is exceedingly sharp.

10.21 In Egypt there are some, like the people of Ombos, who venerate Crocodiles, and just as we regard the Olympian gods with awe, so do they these animals. And when, as often happens, their children are carried off by them, the people are overjoyed, while the mothers of the unfortunates are glad and go about in pride at having, I suppose, borne food and a meal for a god. But the people of Apollonopolis, a district of Tentyra, net the Crocodiles, hang them up on persea-trees (these are indigenous), flog them severely, mangling them with all the blows in the world, while the creatures whimper and shed tears; finally they cut them up and eat them.

The Crocodile, it seems, is pregnant for sixty days, and produces sixty eggs which it broods for as many days: it has that number of vertebrae in its spine, and they say that sixty sinews girdle its body, and it bears young ones the same number of times, and it lives for sixty years (I am reporting what the people of Egypt say and believe); one may reckon the teeth of this creature as sixty in number; during sixty days of every year it remains quiet in its lair and abstains from food. The Crocodiles are accustomed to the people of Ombos, and those that are kept in the lakes made by the aforesaid people are obedient to their summons. And the people bring them the heads of the animals which they sacrifice — they themselves will never touch that part — and throw them in, and the Crocodiles come leaping round them. The inhabitants of Apollonopolis, on the contrary, detest the Crocodile, for they say that this was the shape assumed by Typho. Others however say that this is not the reason, but that a Crocodile carried off the daughter of King Psammyntus, a supremely good and righteous man, and therefore in memory of that disaster even posterity abhors the whole race of Crocodiles.

10.22 The Vaccaeii (they are a western people) insult the corpses of such as die from disease as having died a cowardly and effeminate death, and dispose of them by burning; whereas those who laid down their lives in war they regard as noble, heroic, and full of valour, and them they cast to the Vultures, believing this bird to be sacred. And when Romulus on the Palatine Hill, divining by the flight of twelve Vultures, had received a favourable augury, following the number of the birds he decreed that the rulers of Rome should be preceded by a number of rods equal to that of the birds

seen on that occasion. And the Egyptians believe that the Vulture is sacred to Hera, and deck the head of Isis with Vultures' feathers, and on the roofs of the entrances to their temples they carve the wings of Vultures in relief.

I have earlier on said much concerning this bird, but not to the same effect.

10.23 At Coptos in Egypt the natives pay homage to Isis in a variety of rituals but especially in the service and ministry rendered by women who are mourning either a husband or a son or a brother. And at Coptos there are scorpions of immense size, possessing very sharp stings, and most dangerous in their attack (for when they strike they kill instantly), and the Egyptians contrive innumerable devices for self-protection. But although the women in mourning at the temple of the goddess sleep on the floor, go about with bare feet, and all but tread on the aforesaid scorpions, yet they remain unharmed. And these same people of Coptos worship and deify the female gazelle, though they sacrifice the male. They say that the females are the pets of Isis.

10.24 The Crocodile (I may say that I have learned these facts in addition to what has already been recounted of this animal) is naturally timid, of an evil disposition, and thoroughly villainous. It is alert to seize and plan against its victims, but it dreads all noises and is afraid even of loud shouts of men and has a violent fear of those who boldly attack it. Now the people of Egypt called Tentyrites know the best way to master the beast: the most effective way of wounding it is to strike it in the eyes or the armpits and even in the belly. Its back however, and its tail are impenetrable, for it is fortified and, so to say, armed with scaly plates which resemble hard earthenware or shells. Now the aforesaid people are so assiduous in pursuit of these creatures that the river in their district is left in profound peace by the Crocodiles. So there they make bold to swim and sport in their swimming. Whereas among the people of Ombos or Coptos or Arsinoe it is not easy even to wash one's feet nor at Coptos can one draw water in security; why, one cannot even walk along the river banks freely and off one's guard. But the people of Tentyra worship Hawks. For that reason those who live in Coptos, wishing to annoy the Tentyrites as enemies of the Crocodiles, often crucify Hawks. The Crocodile the people of Coptos liken to water, that is why they worship it; whereas the Tentyrites liken the Hawk to fire, hence their adoration. And they adduce as evidence . . . maintaining that fire and water cannot mingle.

Such are the marvellous tales told by the Egyptians.

10.25 After traversing the Egyptian oasis one is confronted for seven whole days with utter desert. Beyond this live the human Dog-faces along the road that leads to Ethiopia. It seems that these creatures live by hunting gazelles and antelopes; further, they are black in appearance, and they have the head and teeth of a dog. And since they resemble this animal, it is very natural that I should mention them here. They are however not endowed with speech, but utter a shrill squeal. Beneath their chin hangs down a beard; we may compare it with the beards of dragons, and strong and very sharp nails give an edge to their hands. Their whole body is covered with hair — another respect in which they resemble dogs. They are very swift of foot and know the regions that are inaccessible: that is why they appear so hard to capture.

10.26 The neck of a Wolf is short and compressed; the animal is thus incapable of turning but always looks straight ahead. And if it wants to look back at any time, it turns its whole body. It has the sharpest sight of any animal, and indeed it can even see at night when there is no moon. Hence the name *Lycophos* (wolf's-light, *i.e.*, gloaming) is applied to that season of the night in which the Wolf alone has light with which Nature provides him. And I think that Homer gives the name 'twilight of

the night,' to the time during which Wolves can see to move about. And they say that the Wolf is beloved of the Sun; and there are those who assert that the year is called *Lycabas* in honour of this animal. It is said also that Apollo takes pleasure in the Wolf, and the reason which is commonly reported has reached me too. It is this: they say that the god was born after Leto had changed herself into a she-wolf. That is why Homer speaks of 'the wolf-born lord of the bow'. That is why, as I learn, at Delphi a bronze Wolf is set up, in allusion to the birth-pangs of Leto. Others however deny this, maintaining that it was because a Wolf gave information that offerings had been stolen from the temple and had been buried by the sacrilegious thieves. For it made its way into the temple and with its mouth pulled one of the priests by his sacred robe and drew him to the spot in which the offerings had been hidden, and then proceeded to dig the spot with its forepaws.

10.27 There is a district in Egypt called Chusae (it is reckoned as belonging to the province of Hermopolis, and though small in extent it possesses charm) and there they worship Aphrodite under the title of *Urania* (heavenly). They also pay homage to a cow, and this, they say, is the reason: they believe that cows are related to this goddess, because the cow feels a strong incitement to love and is more passionate than the bull. At any rate at the sound of his bellow the cow becomes excited and inflamed with a burning desire to couple. And those who are expert in these matters maintain that a cow hears a bull as much as thirty stades away when it is bellowing as a signal to love and mate. And in Egypt sculptors and painters represent Isis herself with the horns of a cow.

10.28 The people of Busiris and of Abydos in Egypt and of Lycopolis dislike the blare of a trumpet on the ground that it resembles the braying of an Ass. And those who attend to the cult of Serapis also hate the Ass. Now Ochus the Persian knowing this slew Apis and deified the Ass from a wish to pain the Egyptians to the utmost. And so he too paid a penalty, which all applauded, to the Sacred Bull, no less than Cambyes who was the first that dared commit this sacrilege. And the same ministers of the aforesaid Zeus (*i.e.*, Serapis) detest the antelope as well, and for this reason: the Egyptians maintain that it voids its excrement after turning its back towards the rising sun. And the followers of Pythagoras also say this touching the Ass, that it alone among animals was not born in tune, and that this accounts for its being completely deaf to the sound of the lyre. Some moreover say that it was beloved of Typho. And in addition to the foregoing charges they would blame the Ass for this also: fertility in all kinds is respected, but this animal is by nature opposed to it. At any rate it is not easy to recall any account of a she-ass giving birth to twins.

10.29 Here is another peculiarity of the Ibis which I have learnt from Egyptian narratives. When it buries its neck and head beneath its breast-feathers, it imitates the shape of the heart. Of its special hostility to creatures injurious to man and to crops I think I have already spoken earlier on. The birds couple with their mouth and beget offspring in that way. And the Egyptians say, though I for one am not easily persuaded, yet they say that those who see to the embalming of animals and who are experts at it, agree that the entrails of the Ibis measure ninety-six cubits. I have heard further that its stride when walking measures a cubit. And when the moon is in eclipse it closes its eyes until the goddess shines out again. It is said to be beloved of Hermes the father of speech because its appearance resembles the nature of speech: thus, the black wing-feathers might be compared to speech suppressed and turned inwards, the white to speech brought out, now audible, the servant and the messenger of what is within, so to say. Now I have already mentioned that the bird lives to a very great age. And Apion states that it is immortal and adduces the priests of Hermopolis as witnesses to prove it. Yet even he considers that this is very far from the truth, and to me it would seem to be an absolute falsehood. The Ibis is a very hot-blooded creature, at any rate it is an exceedingly voracious and foul feeder if it really does eat snakes and scorpions. And yet some things

it digests without difficulty, while others it easily expels in its excrement. And very rarely would one see a sick Ibis, yet it thrusts its beak down in every place, caring nothing for any filth and treading upon it in the hope of tracking down something even there. And yet when it turns to rest it first of all washes itself and purges. It makes its nest in the top of date-palms in order to escape the cats, for this animal cannot easily clamber and crawl up a date-palm as it is constantly impeded and thrown off by the protuberances on the stem.

10.30 It occurs to me now to mention the following additional facts relating to Baboons. If a Baboon finds some edible object with a shell on it (I mean almonds, acorns, nuts) it strips the shell off and cleans it out, after first breaking it most intelligently, and it knows that the contents are good to eat but that the outside is to be thrown away. And it will drink wine, and if boiled or cooked meat is served to it, it will eat its fill; and it likes well-seasoned food, but food boiled without any care it dislikes. If it wears clothes, it is careful of them; and it does everything else that I have described above. If you put it while still tiny to a woman's breast, it will suck the milk like a baby.

10.31 They say that the asp to which the Egyptians have given the name *Thermuthis* is sacred, and the people of the country worship it, and bind it, as though it was a royal headdress, about the statues of Isis. And they deny that it was born to destroy or injure man, but when they maintain that it does not touch virtuous people but kills evildoers they are romancing. If however this is so, then Justice would value this asp beyond all things, for taking vengeance on her behalf and for its piercing sight. Others add that Isis sends it against the worst transgressors. And the Egyptians assert that the *Thermuthis* alone among asps is immortal, and they reckon sixteen different species and varieties. And in their temples, as they say, they build dens and burrows like shrines in every corner and make homes for the *Thermuthes*, and at intervals they provide them with calves' fat to eat.

10.32 Those who know about birds say that the bird *Acanthusa* derives its name from the acanthus which provides it with food. And its voice is wonderfully harmonious and tuneful. And Aristotle says that if one pours the blood of the Acanthus and of the Aegithus, as it is called, into the same vessel and wants to mix them, the two kinds will not mix and unite into a single compound. They say that the Acanthus is sacred to the gods who escort and conduct men on a journey.

10.33 I have stated earlier on that the Turtle-dove is continent and does not, from a desire for some strange and alien bed, consort with any other mate than the one it originally joined. And I learn from those who enquire minutely into such matters that white Turtle-doves are often to be seen. These, they say, are sacred to Aphrodite and Demeter, while the other kind is sacred to the Fates and the Erinyes.

10.34 Even white Swallows have been seen at times, according to Alexander of Myndus. A Swallow made its nest in the tent of Alexander the son of Pyrrhus and then indicated that, whatever the somewhat discreditable expedition on which he was setting out, it would be ineffectual. And (a Swallow) which made its nest (in the tent) of Antiochus hinted obscurely at the future in store for him. For he went up against the Medes and never returned to Syria but threw himself over a precipice. He too therefore embarked on no prosperous affair. And when Dionysius first left his citadel, the Swallows which had their nests there withdrew at the same time and foretold his return. The Swallow is held sacred to the Gods of the Household and to Aphrodite, for she also is one of them.

10.35 When Partridges are sitting on their eggs they screen them with branches and other thick leafage in order to keep out the dews and showers and every kind of damp. For if their eggs get

soaked, unless the mother bird is quickly on the spot to warm them again, they become sterile. Partridges lay as many as fifteen eggs at a sitting. Theophrastus says somewhere that a double heart is to be seen in the Partridges of Paphlagonia. Other sources tell us that the Partridge is the darling of the daughter of Zeus and Leto.

10.36 I have indeed spoken earlier on about Swans, but I shall now relate what I did not mention then. Aristotle says that a flock of Swans was once seen in the Libyan Sea, and that a melody was heard proceeding from them as from a choir singing in unison; and very sweet it was, although mournful and calculated to move the hearers to pity. And some of the birds, he says, when the music was ended were seen to have died. It seems that the Swan is devoted to springs and pools and meres and to all spots where waters meet and abound. At any rate that is where those learned in these things say that the bird meditates its music.

10.37 If an Owl accompanies and stays beside a man who has set out on some business, they say it is no good omen. Witness the case of Pyrrhus of Epirus who set out for Argos by night: this bird met him as he was on horseback and bearing his lance erect. Whereupon it perched upon the lance and would not leave him: it was no safe lancer-guard that the bird I named afforded him. At any rate Pyrrhus reached Argos and met the most inglorious death in the world. That is why I think that Homer knowing full well that the Owl was nowhere a favourable omen, says that Athena sent a heron from the rivers to the comrades of Diomedes when they went off to spy upon the Trojans' camp — a heron, not an owl, even though it appears to be her favourite. And that the country about Troy is moist and well-watered Homer can bear witness in the lines that precede the Battle at the Wall.

10.38 (i). The Octopus is the terror of the Crayfish. At any rate if they chance to be caught in one and the same net, the Crayfish dies on the spot.

(ii) There is a river at Thurii called the Lusias, of which the water is of the purest and is absolutely transparent in its flow, and yet it produces fish of a deep black hue.

10.39 They say that there is a leopard called the *Ampelus*, like the plant (*i.e.*, grape-vine), and that its nature is peculiar compared with other leopards; and I have heard that it has no tail. If it is seen by women it afflicts them with an unexpected ailment.

10.40 In Scythia there are Asses with horns, and these horns hold water from the river of Arcadia known as the Styx; all other vessels the water cuts through, even though they be made of iron. Now one of these horns, they say, was brought by Sopater to Alexander of Macedon, and I learn that he in his admiration set up the horn as a votive offering to the Pythian god at Delphi, with this inscription beneath it:

'In thine honour, O God of Healing, Alexander of Macedon set up this horn from a Scythian ass, a marvellous piece, which was not subdued by the untainted stream of the Lusean Styx but withstood the strength of its water.'

It was Demeter who caused this water to well up in the neighbourhood of Pheneus, and the reason for it I have stated elsewhere.

10.41 Augeas of Eleusis gave Eupolis, the writer of comedies, a hound of fine appearance, a Molossian, which Eupolis named after the donor. Now Augeas the hound, pampered in its feeding

and influenced by long association with its master, came to love him. On one occasion a young fellow-slave of the name of Ephialtes stole some plays of Eupolis, and the theft did not pass unnoticed, for the hound saw him, fell upon him, and, biting him mercilessly, killed him. Some time afterwards Eupolis ended his days in Aegina and was buried there, and the hound, howling and lamenting after the manner of dogs, let himself pine away through grief and starvation and, disgusted with life, died soon after on the grave of the master that had fed it. And in memory of the sad event the place is named *Hound's Dirge*.

10.42 They say that there is a species of deadly Ant, and that it goes by the name of *Laertes*. The name has also been applied to certain kinds of Wasp. This is what Telephus the grammarian from Pergamum in Mysia says.

10.43 All through the hottest summer the Nile in flood gives the fields of Egypt the appearance of a calm stretch of open sea, and over what was till then ploughland there the Egyptians fish and sail in boats manufactured against that season and against this visitation by the river. Later the river retreats and returns to within its naturally proper limits, while the fish bereft of their sire and abandoned by the flood-water are left behind, nurtured in the thick slime to provide a meal for the farmers. This then, though the expression is somewhat violent, is the Egyptian fish-harvest.

10.44 There are, it seems, many species of Cicada, and those who are skilled in these matters enumerate them and report their names. Thus, the *Ashen* one is so called from its colour; whence the *Membrax* got its name I do not know; and *Chirper*, it appears, is the name for a Cicada; and I have heard tell of the *Long-tail* and the *Shriller* and the *Prickly one*. Well, these are all the kinds of Cicada of which I remember having heard the names, but if anyone has got to know more than those that I have mentioned, he must tell them.

10.45 Here are further facts relating to Dogs which I have heard. Puppies are born blind, and when they emerge from their dam's womb they cannot see. For the first fortnight they are afflicted in this way, that is for as many nights as the moon does not appear, but after that the Dog has the sharpest sight of any animal. And it is held in honour by the Egyptians, for they have named a district after it, and they assert that the reason for this is twofold: first, when Isis was seeking everywhere for Osiris, Dogs led the way and tried both to help her to trace his son and also to keep off the wild beasts. And the second reason is this, that at the same time that the Dog-star rises (the story goes that it was the dog of Orion), the Nile also in a sense rises, coming up to water the land of Egypt, and pours over the ploughlands. And so the Egyptians pay honour to the Dog for bringing and summoning this fertilising water.

10.46 There is a fish that goes by the name of *Oxyrhynchus* and it appears to derive its name from its face and from the shape of it. The Nile breeds the aforesaid fish; and after it too a district is named, where, I believe, this same fish is held in veneration. Should the inhabitants catch a fish on a hook they will never eat it for fear lest the aforesaid fish, which they regard as sacred and to be worshipped, may have chanced to impale itself on the hook. And whenever fish are netted, they search the nets in case this famous fish has fallen in without their noticing it. And they would rather catch nothing at all than have the largest catch which included this fish. And the people who live round about maintain that it was born from the wounds of Osiris. They identify Osiris with the Nile.

10.47 The Ichneumon is both male and female in the same individual, partaking of both sexes, and Nature has enabled each single same animal both to procreate and to give birth. Those that are worsted in a fight are degraded into the less honoured class, for the victors, mount the vanquished

and inseminate them. And the latter carry with them as prize of their defeat endurance of birth-pangs and motherhood for fatherhood. The Ichneumon is most hateful to man's deadliest enemies, the asp and the crocodile: I have earlier on described how they war with each other. Ichneumons are said to be sacred to Leto and the Goddesses of Birth, and the people of Heracleopolis worship them, so they say.

10.48 To Lycaon King of Emathia was born a son of the name of Macedon, after whom the country has thenceforward been called, no longer preserving its ancient name. Now his son was a vigorous youth of remarkable beauty and his name was Pindus. Other sons he had besides, but they were foolish in spirit and not robust of body, and so in course of time growing jealous of the valour and the general good fortune of their brother, they slew him; but it was to their own undoing, and they paid the penalty as was right. For Pindus realising that his brothers were plotting against him, left his father's kingdom and lived in the country. And besides being vigorous in other respects he was also a great hunter. And on one occasion he was pursuing some fawns, and they fled as fast as their legs could carry them, while he rode at full speed in pursuit, leaving his fellow huntsmen far behind. But the fawns entered a hollow and very deep ravine, escaped out of their pursuer's sight, and disappeared.

Accordingly Pindus leapt from his horse and fastened it by the rein to one of the trees hard by and was just about to investigate the ravine and to search for the fawns, when he heard a voice which said 'Touch not the fawns!' And so after looking all round and seeing nothing, he was in fear of the voice, thinking that it proceeded from some mightier agency. And then he departed taking his horse with him. But on the following day he came unaccompanied, but remembering the voice that had fallen on his ears and being afraid, he did not enter the ravine. And while he was taking council with himself and was perplexed as to who it was that the day before had checked his pursuit of the quarry, and while he was looking about, as was natural, for shepherds on the hills or other hunters, he beheld a monstrous serpent trailing most of its body behind but with the neck, which was small compared with the rest of the body, held aloft. (Neck and head together exceeded in size that of a full-grown man.) The sight filled him with terror. Pindus however did not take to flight, but pulled himself together and by his adroitness tricked the serpent, for he brought forward the birds which he happened to have caught and offered them as friendly gifts and as a ransom for his own life. And the serpent mollified presumably and bewitched, as you might say, by the gifts, departed.

This pleased the youth and thereafter, being a good man, he used to bring payment for the saving of his life to the serpent, giving freely the first fruits of the chase, whether beast or bird from the hills. And this bestowal of gifts had the most fruitful results for Pindus, and his fortune began to prosper and grew every day more impressive, for whether it was beasts of the forest or whether it was birds, with all of them his hunting was successful. Accordingly he enjoyed abundance; moreover his fame spread abroad, of how he fearlessly attacked and captured wild beasts. His figure was tall and such as to cause astonishment by reason of the bulk of his body and of his splendid condition also. And it was clear that his beauty inflamed and kindled the hearts of all women with desire for him: all who were widowed would throng his doors like people crazed, while those who were married to husbands and whom custom confined indoors were enslaved by the fame of Pindus's beauty and would rather have been his wife than become goddesses.

As to the men, most of them admired and loved him; only his brothers hated him. And once when he was hunting by himself they lay in wait for him, and the hunting-ground was near a river, and the three set upon him as he had none to help him and smote him with their swords. Whereupon he cried



aloud. His cry was heard by his companion the serpent. (This creature is keen of hearing and has very sharp eyes.) And so it emerged from its lair and coiling round the miscreants killed them by choking them to death. But the snake continued to mount guard until the youth's relations, who were anxious for him, arrived and found him lying dead. But though they made lamentation for him they did not dare to attend to the dead body for fear of its guardian. The serpent however realising by some mysterious instinct that it was keeping them away, departed at a very leisurely pace, leaving Pindus to receive the last kind service from his kin. And so he was buried with great pomp, and the river which was close by the scene of murder was called Pindus after the dead man and the tomb over him.

It is then a characteristic of animals to render thanks to their benefactors, as I have stated earlier on, and especially on this occasion.

10.49 Particularly in Clarus do the inhabitants and all Greeks pay honour to the son of Zeus and Leto. And so the land there is untrodden by poisonous creatures and is also highly obnoxious to them. The god wills it so, and the creatures in any case dread him, since the god can not only save life but is also the begetter of Asclepius, man's saviour and champion against diseases. Moreover Nicander also bears witness to what I say, and his words are:

'No viper, nor harmful spiders, nor deep-wounding scorpion dwell in the groves of Clarus, for Apollo veiled its deep grotto with ash-trees and purged its grassy floor of noxious creatures'.

10.50 I have heard it said that in Eryx, where of course the famous temple of Aphrodite is (the pigeons there and their peculiarities I mentioned earlier on), there is a store of gold, an immense store of silver, necklaces, and finger-rings of great price; and that dread of the goddess renders them safe from robbers and untouched; and that men in ancient times always regarded the aforesaid goddess and her treasures with veneration and awe. But I learn that Hamilcar the Carthaginian looted these objects, melted down the silver and gold, and then distributed an infamous largesse to his troops. And for these deeds he suffered the most painful and grievous torments and was punished with crucifixion, while all his accomplices and partners in that unholy sacrilege died violent and terrible deaths. And his native land which till then was so prosperous and which was reputed enviable above most lands, after these sacred objects had been imported, was reduced to slavery. But impressive though these facts are they have no bearing on my present object, but what is relevant to this discourse shall now be told.

On every day throughout the whole year the people of Eryx and strangers too sacrifice to the goddess. And the largest of the altars is in the open air, and upon it many sacrifices are offered, and all day long and into the night the fire is kept burning. The dawn begins to brighten, and still the altar shows no trace of embers, no ashes, no fragments of half-burnt logs, but is covered with dew and fresh grass which comes up again every night. And the sacrificial victims from every herd come up and stand beside the altar of their own accord; it is the goddess in the first place that leads them on, and in the second place it is the ability to pay, and the wish, on the part of the sacrificer. At any rate should you desire to sacrifice a sheep, lo and behold, there is a sheep standing at the altar, and you must begin the ceremonial washing. But if you are a man of substance and wish to sacrifice one cow or even more than one, then the herdsman will not mulct you by charging too much, nor will you disappoint him, for the goddess sees that the sale-prices are just, and if you pay fairly you will win her favour. If however you want to buy at a cheaper rate than is proper, you will pay down your

money in vain — the animal departs and you are unable to sacrifice. So much then for this peculiarity of animals at Eryx in addition to those which I have mentioned earlier on.

## Book 11

11.1 The race of the Hyperboreans and the honours there paid to Apollo are sung of by poets and are celebrated by historians, among whom is Hecataeus, not of Miletus but of Abdera. The many other matters of importance which he narrates I think there is no need for me to bring in now, and in fact I shall postpone the full recital to some other occasion, when it will be pleasanter for me and more convenient for my hearers. The only facts which this narrative invites me to relate are as follows. This god has as priests the sons of Boreas and Chione, three in number, brothers by birth, and six cubits in height. So when at the customary time they perform the established ritual of the aforesaid god there swoop down from what are called the Rhipaeian mountains swans in clouds, past numbering, and after they have circled round the temple as though they were purifying it by their flight, they descend into the precinct of the temple, an area of immense size and of surpassing beauty. Now whenever the singers sing their hymns to the god and the harpers accompany the chorus with their harmonious music, thereupon the Swans also with one accord join in the chant and never once do they sing a discordant note or out of tune, but as though they had been given the key by the conductor they chant in unison with the natives who are skilled in the sacred melodies. Then when the hymn is finished the aforesaid winged choristers, so to call them, after their customary service in honour of the god and after singing and celebrating his praises all through the day, depart.

11.2 The people of Epirus and all strangers sojourning there, beside any other sacrifice to Apollo, on one day in the year hold their chief festival in his honour with solemnity and great pomp. There is a grove dedicated to the god, and round about it a precinct, and in the enclosure are Serpents, and these self-same Serpents are the pets of the god. Now the priestess, who is a virgin, enters unaccompanied, bringing food for the Serpents. And the people of Epirus maintain that the Serpents are sprung from the Python at Delphi. If, as the priestess approaches, they look graciously upon her and take the food with eagerness, it is agreed that they are indicating a year of prosperity and of freedom from sickness. If however they scare her and refuse the pleasant food she offers, then the Serpents are foretelling the reverse of the above, and that is what the people of Epirus expect.

11.3 At Etna in Sicily honour is paid to a temple of Dog Hephaestus, and there are a precinct, sacred trees, and a fire that is never extinguished, never sleeps. And about the temple and the grove there are sacred Hounds which greet and fawn upon such as pass into the temple and the grove with honest hearts in seemly fashion as is their duty, as though the animals had a kindness for them and presumably recognised them. If however a man has his hands stained with crime, they bite and tear him, whereas those who only come from the bed of debauchery they simply chase away.

11.4 The people of Hermione worship Demeter and sacrifice to her in splendid and impressive style; and they call her festival the 'Festival of the Earth.' At any rate I have heard that the largest cattle allow themselves to be led from the herd by the priestess to the altar of Demeter and be sacrificed. And Aristocles bears witness to my statement when he says somewhere

'Demeter, goddess of abundance, thou dost manifest thyself both to the people of Sicily and to the sons of Erechtheus, but this among the dwellers in Hermione is judged a mighty feat: the bull of surpassing size from a herd, which not even ten men can master, this bull an aged woman, coming by herself, leads by the ear alone to this altar, and he follows as a child after its mother. Thine, even thine, Demeter, is the power. Show us thy favour and grant that every farm in Hermione may thrive exceedingly.'

11.5 In the country of the Daunii there is a temple to Athena of Ilium which is celebrated. And they say that the Hounds that are kept there fawn upon any Greeks that arrive but bark at foreigners.

11.6 And in Arcadian territory there is a shrine of Pan; Aule is the name of the place. Now any animals that take refuge there the god respects as suppliants and protects in complete safety. For wolves in pursuit are afraid to enter it and are checked at the mere sight of the place of refuge. So there is private property for these animals too to enable them to survive.

11.7 On Curias when the Deer (of which there are a great number and many hunters keen in pursuit of them) take refuge in the temple of Apollo there (the precinct is of very wide extent), the hounds bay at them but do not dare to approach. But the Deer in a body graze undeterred and without fear and by some mysterious instinct trust to the god for their safety.

11.8 I have mentioned somewhere earlier on how on the occasion of the national assembly at Olympia the flies absent themselves of their own free will and, so to speak, depart along with the women to the opposite bank of the Alpheus. On Leucas there is a high promontory on which a temple of Apollo has been built, and worshippers style him Apollo of Actium. Now when the festival is about to be held there in which they make the Leap in honour of the god, men sacrifice an ox to the flies, and when the latter have sated themselves with the blood they disappear. Yes, but they are bribed to depart, whereas the flies at Pisa need no bribe. So the latter are superior because they do what is required out of reverence for the god and not for a reward.

11.9 Icarus is an island and lies in the Red Sea. Now there is a temple of Artemis there and quantities of wild goats and plump gazelles and hares also. If a man ask leave of the goddess to take them and then starts to hunt whatever is allowed, he does not fail in his object but succeeds and is glad of her gift. But should he fail to ask, he takes nothing and is punished in a way that others describe.

11.10 And now, when I have mentioned the swans, from the Rhipaeian mountains in the country of the Hyperboreans on account of their daily and assiduous service of the son of Zeus and Leto, shall I refrain from telling of the special characteristics of the sacred Bull which the Egyptians deify? How then could I avoid being censured by history and by Nature, who made and gave this gift also to man? But (no one shall accuse me of negligence on this point?), and I will describe also, as is reasonable, this system of religion.

Among the Egyptians Apis is believed to be the god whose presence is most manifest. He is born of a cow on which a flash of light from heaven has fallen and caused his engendering. The Greeks call him Epaphus and trace his descent from his mother the Argive Io, daughter of Inachus. The Egyptians however reject the story as false, and appeal to time as their witness, for they maintain that Epaphus was born late down the ages, whereas the first Apis visited mankind many, many thousands of years earlier. Herodotus and Aristagoras adduce evidence and tokens of this; but the Egyptians do not acknowledge them, for they assert that there are nine-and-twenty marks clearly to be seen on this sacred bull. But what these marks are, and how they are distributed over the body of

the animal, and in what fashion the bull is, as it were, adorned with them, you may learn from another source. And the Egyptians are able to explain which of the stars each mark symbolises. And they say further that the marks indicate when the Nile will rise and the shape of the universe. But you will also see a mark (so the Egyptians assert) which suggests that darkness is older than light. And another mark explains the shape of the crescent moon to him who understands; there are besides, other mysterious signs of different import which to the eyes of the profane and those uninstructed in divine history are hard to interpret. And whenever the report gets abroad which tells the Egyptians that the god has been born, some of the sacred scribes to whom there has been handed down from father to son the science whereby they verify these marks, come to the spot where the calf has been born to the heifer beloved of god, and in accordance with the immemorial precepts of Hermes erect a house where the calf will live at any rate for the time being; it faces the rising sun and is quite large enough to take in the nurses of the calf, for it is essential that the calf should be at the udder for four months. And when it has been weaned, then at the rising of the new moon the sacred scribes and priests go out to meet it and moreover year by year make ready a sacred vessel for this god and transport him on board to Memphis, where he finds abodes after his heart and delightful spots to linger in and places where he may amuse himself, where he may run and roll in the dust and exercise himself, and the homes of beautiful cows, and a well and a spring that yield water for drinking, for his ministers and priests say that it is not good for him always to drink of the Nile. Moreover he is said to grow fat on this sweet water which helps to build up a mass of flesh. As for the processions which they hold and the sacred offices which they perform when the Egyptians celebrate the revelation of the new god, the dances which they execute, the feasts and the assemblies which they organise, and how every town and village is filled with joy — all this would make a long story. But the man in whose herd this divine animal was born is counted fortunate and is so, and the Egyptians regard him with admiration.

Apis, it seems, is in effect a good prophet: he to be sure never sets girls or elderly women on tripods, never fills them with some sanctified draught, but a man prays to this god, and children without, who are playing and dancing to the music of pipes, become inspired and proclaim in time with the music the actual response of the god, so that what they say is more true than what occurred by the Sagras.

The Egyptians liken Apis to Horus whom they believe to be the prime cause of the fertility of their crops and of every good season. That is how they come to reason about his varied colouring, seeing in it a hidden symbolical reference to the variety of the crops. And there is a story of the priests not known to all, that Menis the King of Egypt, thinking of some living animal that he might worship, elected a bull, believing it to be the finest of all animals, and at any rate following Homer in his judgment on these matters, so they say. For Homer too in his *Iliad* says

'Even as a bull standeth out far foremost in the herd, for he is conspicuous amid the  
pasturing kine.

But the facts which Egyptian writers on zoology distort into legends about this animal are not to my taste.

11.11 'Nay, but change the theme', as the phrase might go, and sing not of the Horse a nor yet of the ambush within, but of the bull Mneuis. And he, say the Egyptians, is sacred to the Sun, whereas Apis, they say, is dedicated to the Moon. And according to the Egyptians he also bears a special mark to show that he is no counterfeit, no bastard, but beloved of the aforesaid god. On these topics

another shall speak, but what I wish to tell is the Egyptians' account of the test and the proof to which they put this bull to see whether he is of superior birth or not.

Bocchoris the King of Egypt acquired — I do not know how — a false reputation and a fictitious renown and appeared to be just in his judgments and to have his heart set on righteousness. But by nature, it seems, he was the reverse. Most of his actions I pass over at present, but this is how, from a desire to cause pain to the people of Egypt, he treated Mneuis. He set a wild bull against him. So Mneuis began to bellow and the newcomer bellowed in answer. And then the stranger rushed forward in anger intending to fall upon the bull beloved of the god, but tripped and falling against the stem of a persea-tree, broke his horn, whereupon Mneuis wounded him in the flank and killed him. Boccharis was put to shame and the Egyptians loathed him.

But if anyone considers it highly undignified to drop from natural history into legend, he is a fool. For I am stating what the practice is with these bulls, and what then occurred, and what I hear Egyptians say . . . a lie to them is an abomination.

11.12 The Dolphins' love of music and their eager pursuit of song have been noised abroad and spread to many quarters, and others have told of their friendliness to man, and we ourselves have discoursed upon it earlier on [2.6], I think. But here I shall do well to speak of their intelligence. At any rate whenever a Dolphin is enclosed in a net he keeps quiet to begin with and does not think of escaping, but feasts upon the fish that have been caught with him and, as though invited to a banquet, takes his fill of them. But as soon as he realises, while being drawn along, that he is nearing the shore, he thereupon bites through the net, escapes, and is free. If however he is caught, the more kindly fishermen pass a rush through his nostrils and let him go; and the Dolphin, as though he were ashamed of the evidence of his capture, never comes near a drag-net again. And Aristotle says that whenever one is caught and made fast and is in the fish-box, Dolphins swim round the boat in numbers and leap so high and writhe like suppliants, until the fishermen feel a touch of sympathy and take pity on the prisoner and yield to the entreating creatures and release the captive to them.

11.13 They say that the five hounds, Sannus, Podargus, Lampas, Alcimus, and Theon, kept by Daphnis the neatherd of Syracuse who suffered his well-known punishment at the hands of the Nymph, at the sight of their master's misfortune chose to die after he died, having previously bewailed him deeply and shed tears in abundance.

11.14 I have earlier on spoken of the differences and the varieties in the character of Elephants, and I shall now tell what a good memory too this animal has, how it can remember orders and not belie the expectation and the hope of those who entrust it with whatever it may be. For instance when Antigonus was besieging Megara a female elephant of the name of Nicaea was being kept along with one of the war-elephants. Now to this animal the wife of the keeper entrusted a baby which she happened to have borne a month before, speaking the Indian language, which Elephants understand. And the Elephant grew fond of the child and used to look after it, and liked to have it lying near, and would glance at it when it whimpered; and when it slept the Elephant would scare away the flies, holding in her trunk a spray from the reeds which were thrown beside her as her fodder. And if the child was not there she would actually put her own food aside. And so the mother was obliged to give the child its fill of milk and then place it beside its guardian, otherwise Nicaea gave unmistakable signs of being annoyed and angered and even of threatening mischief. And often, if the baby started to cry, she rocked the cradle in which it lay, comforting it as nurses are in the habit of doing by the swaying — and this, my fellow-men, was an Elephant.

11.15 I know that I have spoken appropriately of the very violent jealousy on the part of different animals, viz the coot, the dog, and in the third place the stork. But now I intend to speak of the anger of an Elephant over an outraged marriage. Having detected the wife of its trainer and keeper in the very act of adultery, it drove one tusk through the woman and one through her lover and killed them both and left them lying amid the dishonoured coverings on the desecrated bed, so that when the trainer came he might note their sin and recognise his avenger. This happened in India, but the deed travelled from there, to these shores, and I learn that in the reign of Titus, that good and noble man, the same thing occurred in Rome, but they add that the Elephant there killed both the offenders and covered them with a cloak which on the arrival of its keeper it threw off and revealed the two lying side by side, while the tusk with which it had pierced them was seen to be stained with blood.

11.16 It seems that one peculiarity of snakes is their faculty of divination. At any rate in the town of Lavinium, which is in Latium — it is so named after Lavinia the daughter of Latinus at the time when he fought as an ally of Aeneas against the people called Rutulians and overcame them. And Aeneas of Troy, son of Anchises, founded the aforesaid town; and it might be, in a manner of speaking, the grandmother of Rome, because it was from Rome that Ascanius, the son of Aeneas and Creusa the Trojan, set out to found Alba, and Rome was a colony of Alba. — Well, there is a sacred grove in Lavinium of wide area and thickly planted, and near by is a shrine to Hera of Argolis. And in the grove there is a vast and deep cavern, and it is the lair of a Serpent. And on certain fixed days holy maidens enter the grove bearing a barley-cake in their hands and with their eyes bandaged. And divine inspiration leads them straight to the Serpent's resting-place, and they move forward without stumbling and at a gentle pace just as if they saw with their eyes unveiled. And if they are virgins, the Serpent accepts the food as sacred and as fit for a creature beloved of god. Otherwise the food remains untasted, because the Serpent already knows and has divined their impurity. And ants crumble the cake of the deflowered maid into small pieces so that they can be carried easily, and transport them without the grove, cleansing the spot. And the inhabitants get to know what has occurred and the maidens who came in are examined, and the one who has shamed her virginity is punished in accordance with the law.

This is the way in which I would demonstrate the faculty of divination in serpents.

11.17 Now Homer says 'but gods are hard to endure when seen clear to view.' And so even a serpent which is honoured by the most sacred rites has in it something of the divine, and to look upon it is not profitable. And what I mean is this. In Metelis, a town of Egypt, there is a sacred Serpent in a tower, and it receives honours and has ministers and servants, and before it are set a table and a bowl. So every day they pour barley into this bowl and soak it in honey and milk and then depart, returning on the following day to find the bowl empty. Now the eldest servant felt a keen desire to set eyes upon the Serpent, and coming by himself performed the usual duties and withdrew. And the Serpent mounted on the table and feasted. And this busybody in opening the doors (he had closed them as was the custom) made a loud noise. The Serpent was indignant and retired, while the man who had seen the creature whom he wished to see, to his own undoing, went out of his mind, told what he had witnessed, and confessed his impious deed, became dumb, and shortly afterwards fell down dead.

11.18 Here are further peculiarities of animals. The Peacock in order to escape the influence of the evil eye seeks out a root of flax as a kind of natural amulet and carries it about packed under one wing. And it is said that if a horse suffers from a retention of urine, and a maiden strikes him across the face with the girdle she is wearing, he immediately stales copiously and is relieved of his pain.

And when a mare shows an altogether frenzied desire to go a-horsing it is easy to arrest her, according to Aristotle, if one clips the mane on her neck. For she feels shame and is no longer skittish and drops her wantonness and her constant frisking and is downcast at her disgrace. And Sophocles, you remember, in his drama of *Tyro* hints at this. Tyro is represented as speaking, and this is what she says:

'But it is my lot to grieve for my hair, even as a filly which seized by neatherds in the stables has had the yellow harvest reaped from her neck with ruthless hand; and haled to the meadow to drink of the stream, beholds the mirrored image of her reflexion with the hair cropped beneath the shears to her dishonour. Alas! even a pitiless heart would pity her, cowering in her shame, to see how wild are her grief and her tears for her lost hair.'

11.19 When a house is on the verge of ruin the mice in it, and the martens also, forestall its collapse and emigrate. This, you know, is what they say happened at Helice, for when the people of Helice treated so impiously the Ionians who had come to them, and murdered them at their altar, then it was (in the words of Homer) that 'the gods showed forth wonders among them.' For five days before Helice disappeared, all the mice and martens and snakes and centipedes and beetles and every other creature of that kind in the town left in a body by the road that leads to Cerynea. And the people of Helice seeing this happening were filled with amazement, but were unable to guess the reason. But after the aforesaid creatures had departed, an earthquake occurred in the night; the town collapsed; an immense wave poured over it, and Helice disappeared, while ten Lacedaemonian vessels which happened to be at anchor close by were destroyed together with the city I speak of.

Justice at the same time uses animals as her ministers to punish impious men. Witness the case of Pantacles the Lacedaemonian who, after preventing some of the artists of Dionysus who were on their way to Cythera from passing through Sparta, later, when seated upon the Ephor's throne, was torn to pieces by dogs.

11.20 Adranus is a town in Sicily, according to Nymphodorus, and in this town there is a temple to Adranus, a local divinity. And they say that he is there in very presence. And all that Nymphodorus tells of him besides, and how he shows himself and how kindly and favourable he is to his suppliants, we shall learn some other time. But now I shall give the following facts. There are sacred Hounds and they are his servants and ministers; they surpass Molossians in beauty and in size as well, and there are not less than a thousand of them. Now in the daytime they welcome and fawn upon visitors to the shrine and the grove, whether they be strangers or natives. But at night they act as escorts and leaders, and with great kindness conduct those who are already drunk and staggering along the road, guiding each one to his own house, while those who indulge in tipsy frolics they punish as they deserve, for they leap upon them and rip their clothes to pieces and chasten them to that extent. But those who are bent on highway robbery they tear most savagely.

11.21 There is, it seems, a marine snail which is born in the Red Sea and of great beauty and very large. Its shell is purple and its spiral has been decorated and made gay by Nature. You would say you were looking at a garland subtly woven of flowers of varied hue, green and golden and vermilion, the colours alternating at equal intervals.

11.22 Nature, they say, has caused the Dolphin to be in perpetual motion, and for the Dolphin motion ends with the end of life. At any rate when in need of sleep it rises and floats up to the surface so that its whole body is visible, and then goes to sleep. Even the Dolphin is not unsleeping or devoid of a share of the god of sleep. At all events when it does sleep it sinks into the depths until

it touches the bottom, and when it reaches it, it wakes on the impact with the floor of the sea and rises again. And again when overcome by sleep and subdued by the god, down it sinks, and again when roused by the impact as before, up it floats: and it does this time after time, being half-way between repose and activity, and yet never once does it lapse into complete immobility.

11.23 In the Red Sea there occurs a flat-fish shaped like the sole, so they say. Its scales are not very rough to the touch; its colour is golden, and from head-tip to tail it is marked with black lines. One might describe them as tense strings, which is the reason why the fish itself is called the 'Harper.' Its mouth is compressed and is a deep black and is enclosed in a saffron-coloured ring; its head is variegated, gleaming like gold and with black lines. It has fins like gold, but its tail is black except at the tip, and that is the purest white. And other kinds of Harper are said to occur: some are purple all over, with golden lines at intervals. They have rings the colour of gilliflowers on their head: one descends from below the eyes down to the gills, another extends from behind the eyes half-way down the head, and another encircles the neck like a necklace.

11.24 The Leopard-fish is native to the Red Sea, according to those who have seen it, and in its colour and circular markings resembles the leopard of the mountains.

The Oxyrhynchus, which occurs there, has an elongated mouth, eyes like gold, and white eyelids. There are pale markings on its back, but the fins on either side are black, while the dorsal fins are white. Its tail is oblong in shape and its colour is green, and a streak of gold bisects it.

11.25 Ptolemy the Second, also called Philadelphus, was presented with a young Elephant, and it was brought up where the Greek language was used, and understood those who spoke it. Up to the time of this particular animal it was believed that Elephants only understood the language spoken by the Indians.

11.26 It seems that among brute beasts also Nature has put the male above the female. At any rate the male Dragon has the crest and the beard; and the Cock too has the comb and the wattles; and the Stag has the horns, the Lion the mane, the male Cicada the voice.

11.27 The war between the Achaeans and Trojans was caused, they say, by Helen the daughter of Zeus; the war of the Persians against the Greeks was caused by Atossa the wife of Darius who had conceived a desire to obtain Athenian women for her service; and the long war in Greece was due to the proclamation directed against the people of Megara. The people of Magnesia and of Ephesus were roused to war by a locust; the people of Chaonia and of Moesia by a dove; and the people of Thebes in Egypt are said to have made war against the Romans because of a dog.

11.28 There is a story that Pythochares the piper repelled an attack of wolves by playing a loud and noble strain on his pipe. And a swarm of flies drove out the people of Megara, wasps the people of Phaselis, and centipedes the people of Rhoeteum.

11.29 They say that the Sheep of Pontus have no gall-bladder, whereas those on the isle of Naxos have two.

11.30 The Bee-eater appears to be more dutiful than the stork, for this reason: it does not wait for its parents to grow old before it starts to feed them, but does so directly it grows its quill-feathers.



11.31 Here is another characteristic of animals and a good one. The gods take thought for them, neither looking down upon them nor reckoning them of small account. For although destitute of reasoning power, at any rate they possess understanding and knowledge proportionate to their needs. And I will explain how they are beloved of the gods, not by many examples taken from a multitude but by a sufficient number.

A cavalry officer of the name of Lenaeus owned a horse of fine appearance, very fleet of foot and of dauntless spirit; in displays it was good at running the course it had been taught; in war itself it was capable of endurance; and was quite excellent both in pursuit, when occasion arose, and in retreat, where necessity called for it. And in consequence of all this the horse was a valued possession, and the owner was accounted most fortunate by his fellow cavalymen. Now the horse, with the excellent qualities I have described, in consequence of a blow which it received in its right eye was incapacitated for seeing. Accordingly Lenaeus seeing all his hopes anchored upon the condition of his noble horse (the cavalry shield covered the left eye which alone could see), went to the temple of Serapis bringing a patient of a most unusual kind, — his horse, and, as though he were pleading for a brother or a son, implored the god for the horse's sake to have compassion on his suppliant, especially as it had done no wrong. For men, he said, may bring misfortune upon themselves either by some impious act or some blasphemous speech. 'But what sacrilege,' he exclaimed, 'or what murder has a horse committed, and how and by what means has it blasphemed?' And he called the god to witness that he himself had never wronged any man, and for this reason he implored the god to relieve his comrade-in-arms and friend of its blindness. And the god, although so mighty, did not neglect or scorn to heal the dumb beast, and therefore took pity both on the sick animal and on the man who besought him on its behalf, and prescribed a cure, not by fomenting the eye but by warming it with vapour baths at midday in the temple precinct. So this was done and the eye of the horse was restored. And Lenaeus sacrificed thank-offerings and donations for its recovery, while the horse pranced and snorted and seemed larger and more beautiful and was full of joy, and speeding to the altar moved so proudly, and as it rolled in front of the steps was seen to be giving thanks with all its might to the god who had healed it.

11.32 A husbandman was digging a trench in a vineyard in order to plant some fine, choice cutting, when he brought down his mattock upon a sacred Asp that had its lair below the soil and was far from hostile to man, and without knowing it cut the snake in half. And as he was breaking up the soil he caught sight of the tail involved in the sand, while the severed portion from the belly upwards to the neck was still crawling and covered with gore from the cut. He was horror-struck, went out of his mind, and passed into a state of real madness of the most acute description. By day he lost control of himself and of his reason; moreover at night he was in a state of frenzy, and would leap out of bed saying that the Asp was pursuing him, and as though he was on the point of being bitten would utter the most horrifying cries and shout for help. He would even say that he saw the form of the snake which he had slain, angrily threatening him; at times he avowed that he had been bitten, and it was evident from his groans that he was in pain. So when his affliction had lasted for some time, his relations took him as a suppliant to the temple of Serapis and implored the god to remove and abolish the phantom of the aforesaid Asp. Well, the god took pity on the man and cured him. But I have described how the Asp had not to wait for its revenge, and a very sufficient revenge too.

11.33 The King of Egypt was presented with a Peacock from India, the largest and most magnificent of its kind. He was unwilling to keep it along with the common flock as a household pet or for eating, but attached it to the temple of Zeus Protector of the City, judging the aforesaid bird to be an offering worthy of the god. This bird a dissolute youth of considerable wealth longed to capture and

to make a meal of, for he habitually indulged his appetite on any and every pretext, and in his extravagant gluttony and depravity he regarded variety of food and what had been acquired by dangerous means and what had been purchased at the cost of immense trouble as an accession to his pleasure. Accordingly he offered one of the attendants on the god a substantial bribe to commit sacrilege, and promised him a further sum besides. And the man elated by a vain hope went to the spot where he knew the bird lodged and tried to lay hands on it and bring it to his rich patron. But the bird he did not see: what he did see was a huge asp reared up in anger against him. At first he was afraid and made off, but when the dissolute man insisted and urged him on, the attendant went to get the Peacock. But the bird sprang up out of reach and raising itself lightly through the air on its wings, settled not upon one of the sacred trees nor upon any other lofty and high spot but upon the centre of the temple, and surveyed them with an unflinching eye as though to show that it was too clever for their designs and that it was not to be caught. Accordingly since the attendant had accomplished nothing, the dissolute man demanded the money, which he had already given, back again; but the other refused, saying that he had carried out his orders but was unable to steal what belonged to the gods. As was natural, a quarrel arose over the affair and presently there was shouting, and many people heard the noise. Next, the chief priest arrived and enquired what was the reason of this wrangling in the temple, and the men began to accuse one another. And the rich man, outraged by threats, blasphemy, and abuse, took his departure, and after swallowing the bone of another bird was in pain and died in agonies, while the wicked attendant was punished by the governor of the city for sacrilege. As for the bird, it was not seen either alive or dead, but the story goes that after living for a hundred years it disappeared.

11.34 The following story too is like the above and concurs with it. One Cissus by name, a devoted servant of Serapis, was the victim of a plot on the part of a woman whom he had once loved and later married: he ate some eggs of a snake, which caused him pain; he was in a grievous state and in danger of death. But he prayed to the god, who bade him buy a live Moray and thrust his hand into the creature's tank. Cissus obeyed and thrust in his hand. And the Moray fastened on and clung to him, but when it was pulled off it pulled away the sickness from the young man at the same time. It was because this Moray was a minister of the god's healing power that the tale reached my hearing.

11.35 And this same god in the days of Nero cured Chrysermus who was vomiting blood and already beginning to waste away, by means of a draught of bull's blood. And I mention these facts because animals are so dearly beloved by the gods that their lives are saved by them, and when the gods desire, they save others. It was this god (Serapis) who when Basilis the Cretan fell into a wasting disease, rid him of this terrible complaint by causing him to eat the flesh of an ass. And the result was in accordance with the name of the beast, for the god said that this treatment and remedy would be of assistance to him.

On these topics enough has been said.

11.36 Here are further peculiarities of animals. Mares are believed to be most suitable for drawing chariots. And I learn that trainers assert that horses delight in being washed and anointed. And Semonides in his iambics says that horses were even rubbed with perfume. And the Persians, since the battle which Cyrus fought in Lydia, keep camels together with their horses, and attempt by so doing to rid horses of the fear which camels inspire in them.

11.37 Fishes that have no scales are called 'cartilaginous': for example, the moray, the conger-eel, the torpedo, the sting-ray, the horned-ray, the dogfish; [cetaceans] the dolphin, the whale, the seal; these

are the only aquatic creatures that are viviparous. 'Cephalopod mollusca' is the name given to those that have no bones: for example, the octopus, the cuttlefish, the squid, the sea-anemone; these have no blood and no intestines. 'Crustacea,' lobsters, prawns, crabs of all kinds; these slough their 'old age.' 'Testacea,' oysters, purple shellfish, whelks, trumpet-shells, sea-urchins, crayfish.

'Saw-toothed' animals are the wolf, the dog, the lion, the leopard; these, you know, are carnivorous. Incisor-teeth in both jaws are found in man, horses, and asses, and these creatures have fat. Animals whose upper and lower teeth meet evenly are the ox, the sheep, the goat. Animals with projecting teeth, the wild boar, the blind-rat; the elephant, I maintain, has horns, not teeth. Insects, the wasp, the bee; these are even said to have no lungs.

'Amphibians,' the hippopotamus, the otter, the beaver, the crocodile. Scaley creatures, the lizard, the salamander, the tortoise, the crocodile, the snake; and these also, with the exception of the tortoise and the crocodile, slough their 'old age.' Animals with uncloven hoofs, the horse, the ass; cloven-hoofed animals, the ox, the stag, the goat, the sheep, the pig. Creatures with toes, men and dogs. Web-footed and flat-nailed creatures, the swan, the goose. Creatures with crooked talons, hawks and eagles. I have mentioned elsewhere the distinguishing marks of other animals.

11.38 It seems that the Egyptian Goose also is devoted to its offspring and behaves as partridges do. For it also rolls on the ground in front of its young and affords its pursuer the hope of catching it; meantime the chicks make their escape. And when they are some distance away, the parent also takes wing and is off.

11.39 The Egyptians say that the Hawk while alive and active is beloved of the gods, and when it has departed this life and shed its body and become a disembodied spirit, it prophesies and sends dreams. And the Egyptians say that a Hawk with three legs once appeared among them, and believers accept the statement as sound.

11.40 The Partridges of Paphlagonia have two hearts, according to Theophrastus. And Theopompus says that Hares in Bisaltia have each of them a double liver. And Apion says — unless he is romancing — that the Stags in certain districts have four kidneys. And the same writer states that in the time of Atothis son of Menis there appeared a Crane with two heads, and that there was prosperity in Egypt; and in the reign of another King there appeared a bird with four heads, and the Nile overflowed as never before and the fruits were abundant and the crops flourished marvellously. Nicocreon of Cyprus possessed a Deer with four horns; this he gave as an offering at Delphi and wrote beneath it:

'It was thy doing, O son of Leto, mighty archer, that Nicocreon captured this four-horned deer.'

Moreover there were even Sheep with four horns and with three horns in the temple of Zeus, the Guardian of the City. And I myself have seen a sacred Ox with five feet which was an offering to this god in the great city of Alexandria, in the far-famed grove of the god, where the persea-trees close-planted afforded the loveliest shade and coolness. And there was a Calf with the colour of wax, and it had a foot attached to its shoulder which was superfluous for walking although it was perfectly formed. True, these phenomena appear far from conformity to nature, but I have reported what I myself have seen and heard.

## Book 12

12.1 There is a bay at Myra in Lycia and it has a spring and there is a shrine of Apollo there, and the priest of this god scatters the flesh of calves that have been sacrificed to the god, and Sea-perch come swimming up in shoals and eat the flesh, as though they were guests invited to the feast. And the sacrificers are delighted, for they believe that this feasting of the fishes is a good omen for them, and they say that the god is propitious because the fish gorged themselves upon the flesh. If however the fish cast the food ashore with their tails as though they despised it and regarded it as tainted, this is believed to signify the wrath of the god. And the fish recognise the priest's voice, and if they obey his summons they gladden those on whose behalf they have been summoned; in the opposite event they cause them grief.

12.2 In the ancient Bambyce (it is now called Hierapolis since Seleucus gave it this name) there are sacred fish which swim in companies and have leaders; these are the first to eat of the food which is thrown in to them. More than all other fish they maintain friendly relations with one another and are always at peace, either because the goddess inspires them with unanimity, or because being satisfied with the food that is thrown in to them, they therefore abstain from eating one another and know nothing of it.

12.3 The Egyptians assert (though they are far from convincing me), they assert, I say, that in the day of the far-famed Bocchoris a Lamb was born with eight feet and two tails, and that it spoke. They say also that this Lamb had two heads and four horns. It is right to forgive Homer who bestows speech upon Xanthus the horse, for Homer is a poet. And Alcman could not be censured for imitating Homer in such matters, for the first venture of Homer is a plea sufficient to justify forgiveness. But how can one pay any regard to Egyptians who exaggerate like this? However fabulous though they be, I have related the peculiarities of this lamb.

12.4 Here is another fact touching Hawks that I remember to have heard. Before the Nile inundates Egypt and comes up over the ploughlands, hawks shed their old feathers just as the branches of tree shed their withered leaves, and grow new and beautiful plumage as trees do foliage. It seems that there are in fact several species of Hawks, and Aristophanes appears to hint as much. At any rate he says

'But we have despatched three thousand Hawks, mounted archers. And each one move forward with talons crooked — kestrel, buzzard vultures night-hawk, eagle.

They are allotted separately to many gods. The partridge-catcher, they say, and the ocypterus are servants of Apollo; the lammergeier and the shearwater they assign to Athena; the dove-killer is said to be the darling of Hermes, the wide-wing, of Hera, and the buzzard, as it is called, of Artemis. To the Mother of the Gods (they assign) the merminus, and to one god one bird, to another another. There are in fact a great many kinds of Hawks.

12.5 The Egyptians incur the derision at any rate of most people for worshipping and deifying, various kinds of animals. But the inhabitants of Thebes although Greeks, worship a marten, so I hear and allege that it was the nurse of Heracles, or if it was not the nurse, yet when Alcmena was in labour and unable to bring her child to birth, the marten ran by her and loosed the bonds of her womb, so that Heracles was delivered and at once began to crawl. And those who live in Hamaxitus

in the Troad worship a Mouse, and that is why according to them, they give the name of *Sminthian* to Apollo whom they worship, for the Aeolians and the people of the Troad still call a mouse *sminthus* just as Aeschylus too in his *Sisyphus* write;

'Nay, but what *sminthus* of the fields is so monstrous?'

And in the temple of Smintheus tame Mice are kept and fed at the public expense, and beneath the altar white Mice have their nests, and by the tripod of Apollo there stands a Mouse. And I have also heard the following mythical tale about this cult. Mice came in tens of thousands and cut off before they ripened the crops of the Aeolians and Trojans rendering the harvest barren for the sowers. Accordingly the god at Delphi said when they enquired of him, that they must sacrifice to Apollo Smintheus they obeyed and freed themselves from the conspiracy of Mice, and their wheat attained the normal harvest. And they add the following story. Some Cretans who owing to a disaster that befell them were sent out to found a colony, besought the Pythian Apollo to tell them of some good place where it would be advantageous to found a city. There issued from the oracle this answer: in the place where the earth-born made war upon them there they should settle and raise a city. So they came to this place Hamaxitus and pitched their camp in order to rest; but a countless swarm of Mice crept stealthily upon them, gnawed through their shield-straps and ate through their bow strings. So they guessed that these were the 'earth-born' referred to, and, besides, having now no means of getting weapons of defence, they settled in this spot and built a temple to Apollo Smintheus. Well, this mention of Mice has led us to touch upon a matter of theology; however we are none the worse for having listened even to such tales as this.

12.6 It seems that Dolphins are mindful even of their dead and by no means abandon their fellows when they have departed this life. At any rate they get underneath their dead companion and then carry him along to the shore, confident that men will bury him, and Aristotle bears witness to this. And another company of Dolphins follow them by way of doing honour to, or even actually fighting to protect, the dead body, for fear lest some other great fish should rush up, seize it, and then devour it. All just men who appreciate music bury dead Dolphins out of respect for their love of music. But those to whom, as they say, the Muses and the Graces are alien care nothing for Dolphins. And so, beloved Dolphins, you must pardon the savage nature of man, since even the people of Athens cast out the excellent Phocion unburied. And even Olympias lay unburied, although she was the mother of the son of Zeus, as she herself boasted and as he asserted. And the Egyptians after killing the Roman Pompey, surnamed 'the Great,' who had achieved so much, who had had such distinguished victories and had celebrated three triumphs, who had saved the life of his murderer's father and had re-established him on the throne of Egypt, left him cast out, a headless corpse, by the sea, just as men often leave you. For this all-devouring creature man does not even spare you, but goes so far as to pickle you, and is unconscious that his action is hateful to the Muses, the daughters of Zeus.

12.7 In Egypt they worship Lions, and there is a city called after them. It is worth recording the peculiarities of the Lions there. They have temples and very many spaces in which to roam; the flesh of oxen is supplied to them daily and it lies, stripped of bones and sinews, scattered here and there, and the Lions eat to the accompaniment of song in the Egyptian language. And the theme of the song is 'Do not bewitch any of the beholders'; this singing appears, as you might say, to be a substitute for amulets. Many of the Lions are deified in Egypt, and there are chambers face to face consecrated to their use. The windows of some open to the east, others to the west, making life more pleasant for them. And to preserve their health they have places for exercise, and wrestling-grounds near by, and their adversary is a well-nourished calf. And if, after practising his skill against the calf, the Lion

brings it down (this takes time for he is lazy and unused to hunting), he eats his fill and goes back to his own stall.

The Lion is a very fiery animal, and this is why the Egyptians connect him with Hephaestus, but, they say, he dislikes and shuns the fire from without because of the great fire within himself. And since he is of a very fiery nature, they say the Lion is the house of the Sun, and when the sun is, at its hottest and at the height of summer, they say it is approaching the Lion. Moreover the inhabitants of the great city of Heliopolis keep these Lions in the entrance to the temples of the god as sharing (so the Egyptians say) to some extent the lot of the gods. And further, they appear in dreams to those whom the god regards with favour and utter prophecies, and those who have committed perjury they punish not after some delay but immediately, for the god inspires them with a righteous indignation. And Empedocles maintains that if his lot translates a man into an animal, then it is best for him to transmigrate into a lion; if into a plant, then into a sweet-bay. Empedocles' words are

'Among wild beasts they become lions that couch upon the mountains and sleep on the earth, and among trees with fair foliage sweet-bay-trees.'

But if we are (as we ought) to take into consideration the wisdom of the Egyptians who refer such manifestations to natural causes, they assign the foreparts of this animal to fire, and the hinder parts to water. Again, Egyptian artificers in their sculptures and the vainglorious legends of Thebes attempt to represent the Sphinx, with her two-fold nature, as of two-fold shape, making her awe-inspiring by fusing the body of a maiden with that of a lion. And Euripides suggests this when he says

'And drawing her tail in beneath her lion's feet she sat down.'

And moreover they say that the Lion of Nemea fell from the moon. At any rate Epimenides also has these words:

'For I am sprung from the fair-tressed Moon, who in a fearful shudder shook off the savage lion in Nemea, and brought him forth at the bidding of Queen Hera.'

Let us however relegate these matters to the region of myth; but the peculiarities of Lions have been sufficiently dealt with both earlier on and in the present chapter.

12.8 The Wax-moth is a creature that delights in the brilliance of fire and flies to lamps burning brightly, but falls into them owing to its momentum and is burned to death. And Aeschylus the Tragic poet mentions it in these words:

'I greatly dread the foolish fate of the wax-moth.'

12.9 The Wagtail is a winged creature weak in its hinder parts, and that is why (they say) it is incapable of building a nest of its own accord or for itself, but lays its eggs in the nests of other birds. Hence in the proverbs of country folk poor men are called 'wagtails.' The bird moves its tail-feathers, like the ceryl in the passage of Archilochus, And Aristophanes also mentions this bird in his *Amphiarus* thus:

'Give the old man's loins a thorough shaking, as the Wagtail does, and work a powerful spell.'

And in his *Geras*:

Rhythmic wagtail-gait of a belly-arching fellow.'

And Autocrates in his *Tympanistae*:

'As sweet maidens, daughters of Lydia, sport and lightly leap and clap their hands in the temple of Artemis the Fair at Ephesus, now sinking down upon their haunches and again springing up, like the hopping wagtail.'

12.10 (i). When Mice die a natural death and not through any design upon them, their limbs dissolve and little by little they depart this life. That, you see, is the origin of the saying 'Like a mouse's death,' and Menander mentions it in his *Thais*. And men commonly say 'More talkative than a turtle-dove,' because the turtle-dove not only never stops uttering through its mouth, but they do say that it utters a great deal through its hinder parts also. And the same writer mentions this proverb in his *Necklace*. And Demetrius in his play *Sicelia* mentions that turtle-doves chatter through their rump as well.

(ii) They say that Mice are exceedingly salacious and they cite Cratinus as a witness, when he says in his *Drapetides* (Runaway slave-girls):

'Look you, from a clear sky will I blast with lightning the debauchery of that mouse Xenophon.'

And they say that the female mouse is even more madly amorous. And again from the *Chorus* of Epicrates they cite these words:

'The accursed go-between fooled me completely, swearing by the Maiden, by Artemis, by Persephone, that the wench was a heifer, virgin, an untamed filly — and all the time she was an absolute mousehole.'

By calling her an 'absolute mousehole' he meant to say that she was beyond measure lecherous. And Philemon says:

'A white mouse, when someone tries to — but I am ashamed to say the word, the confounded woman at once lets out such a yell, that it is after impossible to avoid attracting attention.'

12.11 The Egyptians also worship a black bull which they call Onuphis. And the name of the place where it is reared let the Egyptian narratives tell us for it is a hard name. Its hair grows the opposite way to that on other bulls; that is another of its peculiarities. It is larger, it seems, than all other bulls, even than those of Chaonia which the inhabitants of Thesprotia and Epirus call 'fatted,' tracing their descent from the oxen of Geryones. This Onuphis is fed upon lucerne.

12.12 It seems that the Dolphin is swifter and can leap higher than all other fish, in fact than all land animals also. At any rate it leaps even over a vessel as Aristotle says; and he attempts to assign a cause for this, which is as follows. It holds its breath as divers do when under water. For, you know, divers straining the breath in their bodies, let it go like a bowstring, and with it their bodies like an arrow; and, says Aristotle, the breath compressed inside them thrusts and shoots them upwards.

12.13 The *Physa* is an Egyptian fish that fills one with astonishment, for it knows, they say, when the Moon is waning and when it is waxing. Moreover its liver grows or dwindles as that goddess does: at one time it is well-nourished, at another it is more shrunken.

12.14 The Catfish is found in the Maeander and the Lycus, the rivers of Asia Minor, and in the Strymon in Europe, and resembles the European sheat-fish. It is of all fishes the most devoted to its offspring. At any rate the female after parturition ceases to pay attention to her children, like a woman who has newly given birth, whereas the male takes charge of the young things, stays by them, and wards off every attempt upon them. And he is quite capable, according to Aristotle, of swallowing a fish-hook.

12.15 The Frog abhors and greatly dreads the water-snake. Accordingly, in return it tries to terrify and scare the water-snake by its loud croaking. The malice of the Crocodile in its pursuit of men and other animals (is shown by the following example). When it knows the path by which men come down to a river either to draw water or to water a horse or a camel or even to embark on a vessel, it floods the track with a quantity of water by night and filling its mouth, pours the contents on the path again and again, meaning to make it slippery and to render the capture easier for itself. For when (men or animals) slip they do not retain their hold on the gang-plank but fall off, whereupon the Crocodile, leaping up, seizes and makes a meal of them. I have still to mention a few facts touching Crocodiles. This animal is not well-disposed to every species of Egyptian plover (and there are many species, with names harsh and repulsive to the ear, and so I omit them); it is only the Clapperbill, as it is called, that it treats as companion and friend, for this bird is able to pick off the leeches without coming to harm.

12.16 Democritus states that the Pig and the Dog bring forth many at a birth, and he assigns the cause to the fact that they have many wombs and many places for the reception of semen. Now the seed does not fill them all at a single ejaculation, but these animals copulate twice or three times in order that the continuance of the act may fill the receptacles of the seed. Mules however, he says, do not give birth, for they have not got wombs like other animals but of a different formation and quite incapable of receiving seed; for the mule is not the product of nature but a surreptitious contrivance of the ingenuity and, so to say, adulterous daring of man. And I fancy, said Democritus, that a mare became pregnant from being by chance violated by an ass, and that men were its pupils in this deed of violence, and presently accustomed themselves to the use of the offspring. And it is especially the asses of Libya which, being very big, mount mares that have no manes, having been clipped. For those who know about the coupling of horses say that a mare in possession of the glory of her mane would never tolerate such a mate.

12.17 Democritus says that the foetus is dropped more easily in southern countries than in northern; and this is natural because the south wind makes the bodies of pregnant females relax and expand. So as the shelter has been loosened and is no longer close-fitting, the embryo grows warm and the heat causes it to slip this way and that and to drop out with greater ease. If however there is a frost and the north wind is blowing, the embryo is congealed and is not easily moved, and is not rocked as it were by a wave, but as though it were in a waveless calm, remains firm and taut and endures until the time ordained by nature for its birth. And so in cold, according to the philosopher of Abdera, the foetus remains in its place, but in warmth it is generally ejected. For when the heat is excessive, he says that the veins and sex-organs are bound to expand.



12.18 And the same writer says that the reason why Deer grow horns is as follows. He agrees that their stomach is extremely hot, and that the veins throughout their entire body are extremely fine, while the bone containing the brain is extremely thin, like a membrane, and loose in texture, and the veins that rise from it to the crown of the head are extremely thick. The food at all events, or at any rate the most productive part of it, is distributed through the body at great speed: the fatty portion of it, he says, envelops their body on the outside, while the solid portion mounts through the veins to the brain. And this is how horns, being moistened with plentiful juices, come to sprout. The continuous flow therefore extrudes the earlier horns. And the moisture which rises and emerges from the body solidifies, the air congealing and hardening it into horns, while that which is still enclosed in the body is soft. The one portion is rendered solid by the external cold; the other remains soft owing to the internal heat. Accordingly the added growth of the new horn extrudes the older as alien, because what is within chafes and tries to push it upwards, swelling and throbbing as though it were in haste to be born and to emerge, for the juice, you see, bursting out and mounting upwards from below cannot remain stationary, but it too solidifies and is impelled against the parts above it. And the older horns are in most cases forced out by the strength of that which is within, although in some cases the animal, forced ahead by its own momentum, has broken off horns that have got entangled in branches and hinder it from running swiftly. These then drop off, but the new horns which are ready to peep out are pushed forward by nature.

12.19 Castrated Oxen, says Democritus, grow curved, thin, and long horns; whereas those of uncastrated Oxen are thick at the base, straight, and of shorter length; And he says that these have; a much wider forehead than the others, for as there are many veins in that part, the bones are in consequence broader. And the growth of the horns being thicker makes that part of the animal broader, whereas castrated Oxen in which the circumference! at the base of the horns is but small, have a narrower forehead, says he.

12.20 But hornless Bulls, not possessing the 'honey-combed' part of the forehead (so Democritus styles it; his meaning would be 'porous'), since the entire bone is solid and does not permit the conflux of the; body's juices, are unprotected and destitute of the means of self-defence. And since the veins in this bone are somewhat under-nourished, they grow thinner and feebler. The neck too is of necessity drier in hornless Bulls, for the veins in it also are thinner. And that is why the veins are not so strong. But all the Arabian cows that have finely developed horns, have them (he says) because the copious influx of animal juices promotes the splendid growth of the horns. But even Arabian cows are hornless when they have the frontal bone that receives the moist secretions too solid and unreceptive of the animal juices. In a word, this influx is the cause of growth in horns, and the flow is introduced where the veins are most numerous, thickest, and as full of moisture as they can hold.

12.21 A love of man is another characteristic of animals. At any rate an Eagle fostered a baby. And I want to tell the whole story so that I may have evidence of my proposition. When Seuechorus was king of Babylon the Chaldeans foretold that the son born of his daughter would wrest the kingdom from his grandfather. This made him afraid and (if I may be allowed the small jest) he played Acrisius to his daughter: he put the strictest of watches upon her. For all that, since fate was cleverer than the king of Babylon, the girl became a mother, being pregnant by some obscure man. So the guards from fear of the King hurled the infant from the citadel, for that was where the girl was imprisoned. Now an Eagle which saw with its piercing eye the child while still falling, before it was dashed to the earth, flew beneath it, flung its back under it, and conveyed it to some garden and set it

down with the utmost care. But when the keeper of the place saw the pretty baby he fell in love with it and nursed it; and it was called Gilgames and became king of Babylon.

If anyone regards this as a legend, I, after testing it to the best of my ability, concur in the verdict. I have heard however that Achaemenes the Persian, from whom the Persian aristocracy are descended, was nursed by an Eagle.

12.22 In Crete there is a temple to Roccaean Artemis, as she is called. The dogs there go raving mad. So when they are afflicted with this disease they hurl themselves head foremost from the promontory into the sea.

12.23 In the country of Elam there is a shrine to Anaitis and there are tame lions there which welcome and fawn upon those on their way to the shrine. And if you call them while you are eating they come like guests invited to a meal, and after taking whatever you offer, they depart in a modest and becoming manner.

12.24 In the Red Sea, so they say, there is a fish, and its name is the Water-Phoenix. It has black stripes, and between them it is speckled with dark blue dots.

12.25 The Horse-mackerel in the Red Sea is the same length as that which occurs in our sea: its body is encircled with stripes like gold which extend from the gills to the tail, and a silvery stripe parts them in two. Its mouth is open and the lower jaw projects beyond the upper; its eyes are green and are surrounded by lids of a golden colour.

The fish called *Charax* is another product of the same sea. It has fins, and the lateral ones are like gold in appearance, and so are all its dorsal fins. On the lower part of its body are rings of purple, but the tail, believe me, is golden, while purple dots colour beautifully the centre of its eyes.

The Archer, which occurs in the same sea, resembles the sea-urchin in appearance and has hard, long prickles.

12.26 The Porcupines of Libya administer a sharp prick to those who touch them and even cause severe pains. Even when dead their bristles can give a nasty stab, so they say.

12.27 There is also a Monkey in the Red Sea; it is not a fish but a cartilaginous creature, and not large at that. And this sea-monkey resembles the, land-monkey in colour, and its face is ape-like. But the rest of its body is protected by a sheath, not like a fish but resembling that of a tortoise. It is also somewhat flat-nosed, as the land-monkey is. But the rest of its body is a flat shape like the torpedo, so that one might say that it was a bird with outspread wings; at any rate when swimming it looks like a bird in flight. But it differs from the land monkey in this way: it is speckled, and the flat parts on the nape of the neck are red, and so are the gills. It has a large mouth at the extremity of its face, and in this respect also the fish bears a natural resemblance to the shape of the land-monkey.

12.28 During the summer the Nightingale assumes a different colour and alters its note, for its song is not resonant and varied but different from its song in spring. The blackbird sings in summertime, but in winter it utters a chattering and confused sound, and changing its colour like a garment, from being black is light brown. And the thrush in winter appears somewhat speckled, whereas in summer it displays a mottled neck. The following fish too change their colour, various wrasses (*ciclæ*,

*cosyphi*, and *phycides*), and sprats. And jackals, according to Aristotle, are hairless throughout the summer but in winter have thick coats.

12.29 At Bubastus in Egypt there is a pool and it fosters an immense multitude of Nile Perch, and these are tame and the gentlest of fish. People throw in morsels of bread, to them, and they leap up, each trying to jump quicker than the other, and pick out the food that is being thrown in. This fish is also found in rivers, for instance in the Cydnus in Cilicia; but there it is small. And the reason is that a stream which is clear, pure, and cold besides (for such is the Cydnus) does not afford it plentiful nourishment, for the fish prefers turbid water full of mud, and fattens on it. But the Pyramus and the Sarus breed larger kinds; these also are rivers of Cilicia. And it must be the same fish that are bred in the Syrian Orontes, but the largest of all are bred in the river Ptolemaeus and in the lake of Apamea.

12.30 Tame fishes which answer to a call and gladly accept food are to be found and are kept in many places, in Epirus for instance, at the town . . .? formerly called Stephanopolis, in the temple of Fortune in the cisterns on either side of the ascent; at Helorus too in Sicily which was once a Syracusan fortress; and at the shrine of Zeus of Labranda in a spring of transparent water. And there fish have golden necklaces and earrings also of gold. The shrine of this Zeus is 70 stades distant from the city of Mylasa. A sword is attached to the side of the statue, and the god is worshipped under the name of Zeus of Caria and 'God of War,' for the Carians were the first to think of making a trade of war and to serve as soldiers for pay, to fit arm-straps to their shields, and to fix plumes on their helmets. And they were called 'Carians' after Car the son of Creta and Zeus, and Zeus received the title of *Labrandeus* because he sent down furious (*labros*) and heavy rainstorms. And in Chios in what is called *Geronton*, 'The Old Men's Harbour,' there are multitudes of tame fish, which the inhabitants of Chios keep to solace the declining years of the very aged. And in the country that lies between the Euphrates and the Tigris there is a spring which is celebrated as being transparent to the bottom and as sending forth bright, clear water, which as it brims over becomes the river Aborras. And the people of the country attach a sacred story to the name, which is as follows. After her marriage with Zeus, Hera bathed herself there, so the Syrians say, and to this day the spot exhales a fragrance, and all the air round about is permeated with it. And there tame fishes gambol in shoals.

12.31 Even the gods do not disdain to take recognizance of the characteristics of animals. At any rate I learn that Eurysthenes and Procleus, the sons of Aristodemus, son of Aristomachus, son of Cleodas, son of Hyllus the son of Heracles, wishing to wed, went to Delphi to ask the god with whom, whether Greek or barbarian, they should ally themselves in order to appear as having made a prosperous and wise marriage. And the god answered: Go back to Sparta, returning by the way you came, and wherever the fiercest animal carrying the gentlest meets you, there plight your troth; for that will be better for you. So they obeyed and arrived in the territory of Cleonae where a wolf met them carrying a lamb which it had snatched from a flock. So they reckoned that the oracle meant these animals, and they took the daughters of Thersander, son of Cleonymus, a man of good repute, to wife.

Now if the gods know what animal is the gentlest and what the fiercest, it is not unfitting that we too, should know their natures.

12.32 The land of India bears a great number and variety of creatures. And some are evidence of its beneficent and wonderful fertility, others are not to be envied nor such as one can commend or desire. Something about those that are profitable or are luxuries of great price I have already said; more shall be, please god, said hereafter. But for the present I intend to describe how the earth shows

the pain with which it bears snakes. Many and various are the snakes it bears. Now these snakes are injurious to man and all other animals. But the same land produces herbs that counteract their bites, and the natives have experience and knowledge of them, and have observed which drug is an antidote to which snake, and come to one another's aid with all possible speed in their effort to arrest the very, violent and rapid spread of the poison throughout the body. And the country produces these drugs in generous abundance to help when needed. But any snake that kills a man, so the Indians say (and they cite numerous witnesses from Libya and the inhabitants of Egyptian Thebes), can no longer descend and creep into its own home: the earth declines to receive it, but casts it out like an exile from its own bosom. Thenceforward it moves around, a vagabond and wanderer, living in distress beneath the open sky throughout summer and winter; none of its mates goes near it any more, nor do those which it has begotten recognise their sire. Such is the punishment for manslaughter which Nature has shown to befall even dumb animals [it is by divine providence], as my memory tells me. This is said for the instruction of persons of understanding.

12.33 Dogs are less useful at keeping watch than geese, as the Romans discovered. At any rate the Celts were at war with them, and had thrust them back with overwhelming force and were in the city itself; indeed they had captured Rome, except for the hill of the Capitol, for that was not easy for them to scale. For all the spots which seemed open to assault by stratagem had been prepared for defence. It was the time at which Marcus Manlius, the consul, was guarding the aforesaid height as entrusted to him. (It was he, you remember, who garlanded his son for his gallant conduct, but put him to death for deserting his post.) But when the Celts observed that the place was inaccessible to them on every side, they decided to wait for the dead of night and then fall upon the Romans when fast asleep; and they hoped to scale the rock where it was unguarded and unprotected, since the Romans were confident that the Gauls would not attack from that quarter. And as a result Manlius himself and the Citadel of Jupiter would have been captured with the utmost ignominy, had not some geese chanced to be there. For dogs fall silent when food is thrown to them, but it is a peculiarity of geese to cackle and make a din when things are thrown to them to eat. And so with their cries they roused Manlius and the guards sleeping around him. This is the reason why up to the present day dogs at Rome annually pay the penalty of death in memory of their ancient treachery, but on stated days a goose is honoured by being borne along on a litter in great state.

12.34 It would not be out of place to mention these further facts touching animals. The Scythians for want of fire-wood cook with the bones of any animal that they sacrifice. Among the Phrygians any man who kills a ploughing ox is punished, with death. The Sagaraeans every year hold camel races in honour of the goddess Athena, and their camels are good at racing and very swift. The Saracori keep asses, not to carry burdens nor to grind corn but to ride in war, and mounted on them they brave the dangers of battle, just as the Greeks do on horseback. And any ass of theirs that appears to be more given to braying than others they offer as a sacrifice to the God of War. Clearchus, the Peripatetic philosopher; states that the inhabitants of Argos are the only people in the Peloponnese who refuse to kill a snake. And these same people, if a dog comes near the market-place on the days which they call *Arneid*, kill it. In Thessaly a man about to marry, when offering the wedding sacrifice, brings in a war-horse bitted and even fully equipped with all its gear; then when he has completed the sacrifice and poured the libation, he leads the horse by the rein and hands it to his bride. The significance of this the Thessalians must explain. The people of Tenedos keep a cow that is in calf for Dionysus the Man-slayer, and as soon as it has calved they tend it as though it were a woman in child-bed. But they put buskins on the newly born calf and then sacrifice it. But the man who dealt it the blow with the axe is pelted with stones by the populace and flees until he reaches Artemis at Amarynthus.

12.35 I have learnt in addition to what I have already said that the dogs of Xanthippus, son of Ariphron, were devoted to their master, for when the people of Athens were emigrating on to their ships at the time when the Persians lit the flames of their great war against Greece, and the oracles declared that it was better for the Athenians to abandon their country and to embark upon their triremes, not even the dogs of Xanthippus were left behind, but emigrated along with him, and after swimming across to Salamis died. The story is narrated by Aristotle and Philochorus.

12.36 The river Crathis has water that turns things white. At all events sheep and cattle and every four-footed herd that drink of it, according to the account given by Theophrastus, from being black or red turn white. And in Euboea almost all oxen are born white, hence poets used to call Euboea 'white-kined.'

12.37 A cockerel of the name of Centaurus fell in love with the cup-bearer of a king (the king was Nicomedes of Bithynia); Philo tells the story. And a jackdaw also fell in love with a handsome boy. I learn also that some bees are amorous, although the majority are more restrained.

12.38 Every painter and every sculptor who devotes himself and has been trained to the practice of his art figures the Sphinx as winged. And I have heard that on Clazomenae there was a sow with wings, and it ravaged the territory of Clazomenae. And Artemon records this in his *Annals of Clazomenae*. That is why there is a spot named and celebrated as 'The Place of the Winged Sow,' and it is famous. But if anyone regards this as a myth, let him do so; for my part I am not sorry to have mentioned what has been related and what has not escaped my notice touching an animal.

12.39 Halias the daughter of Sybaris, was entering a grove of Artemis (the grove was in Phrygia) when a divine serpent appeared to her — it was of immense size — and lay with her. And from this union sprang the *Ophiogeneis* (snake-born) of the first generation.

12.40 At Delphi they pay honour to a wolf, in Samos to a sheep, in Ambracia to a lioness; and it is not irrelevant to our present study to set out the reasons for this honour in each case. At Delphi it was a wolf that tracked down some sacred gold that had been pillaged and buried on Parnassus, but for the Samians it was a sheep that discovered some stolen gold; for that reason Mandrobulus of Samos dedicated a sheep to Hera. The first story is recorded by Polemon, the second by Aristotle. And the people of Ambracia since the day when a lioness tore their tyrant Phaylus to pieces, do honour to this animal as the instrument of their liberation. And Miltiades buried in Cerameicus the mares which had won three Olympic victories; Evagoras the Spartan also gave his horses which had won at Olympia a magnificent funeral.

12.41 At its rising from wells the Ganges, the river of India, is 20 fathoms deep and 80 stades wide, for it is still flowing with its own native waters unmixed with any other. But as it flows on and other rivers fall into it and join their water with it, it reaches a depth of 60 fathoms, and widens and overflows to an extent of four hundred stades. And it contains islands larger than Lesbos and Cynus, and breeds monstrous fishes, and, from their fat, men manufacture oil. There are also in the river turtles whose shell is as large as a jar holding as much as 20 amphorae. And it fosters two kinds of crocodiles. Some of them are perfectly harmless, but others eat flesh with the utmost voracity and ruthlessness, and in the end of their snout they have an excrescence like a horn. These the people employ as agents for punishing criminals, for those who are detected in the most flagrant acts are thrown to the crocodiles, and there is no need of a public executioner.

12.42 Those who are skilled in sea-fishing let down as bait for Parrot Wrasses coriander and chopped leeks, so says Leonidas; and these herbs are successful as bait and afford an easy capture. For the Parrot Wrasse, as though bewitched by spices, swims up to them. And the leaves of beet capture the Red Mullet, for the fish delights in this vegetable, and with its aid the fish is caught and enslaved with the utmost ease.

12.43 There are, they say, four different methods of fishing, viz with nets, with a pole, with a weel, and with a hook. Netting fish brings wealth, and may be compared to the capture of a camp and the taking of prisoners; it requires a variety of gear, for instance rope, fishing-line white and black, cord made from galingale, corks, lead, pine timber, thongs, sumach, a stone, papyrus, horns, a six-oared ship, a windlass with handles, a *cottane*, a drum, iron, timber, and pitch. And there fall into the nets fish of different kinds, varied droves in their multitude.

Fishing with a pole is the most manly form and needs a hunter of very great strength. He must have a straight pole of pine-wood, ropes of esparto, and firesticks of thoroughly sappy pine. He also needs a small boat and vigorous oarsmen with strong arms. Fishing with a weel is a pursuit that calls for much craft and deep design, and seems highly unbecoming to free men. The essentials are club-rushes unsoaked, withies, a large stone, anchors, sea-weed, leaves of rushes and cypress, corks, pieces of wood, a bait, and a small skiff.

Fishing with a hook is the most accomplished form and the most suitable for free men. One needs horse-hair, white, black, red, and grey in colour. If the hairs are dyed, men select only those coloured blue-grey and sea-purple; for all the rest, they say, are bad. Men also use the straight bristles of wild boars and flax also, and a quantity of bronze and lead, cords of esparto, feathers, especially white, black, and particoloured. And anglers also use crimson and sea-purple wool, corks, and pieces of wood. Iron and other materials are needed; among them reeds of straight growth and unsoaked, club-rushes that have been soaked, stalks of fennel rubbed smooth, a fishing-rod of cornel-wood, the horns and hide of a goat. Some fish are caught by one device, others by another, and the various methods of catching them I have already described.

12.44 These two accounts from India and Libya show a difference. The Indian shall relate the practice in his country, and the Libyan shall relate what he knows. So their two accounts are as follows.

In India if a full-grown Elephant is captured he is hard to tame and his craving for freedom makes him thirst for blood, and if you make him fast with ropes his anger is inflamed all the more and he will not stand being a slave and a prisoner. But the Indians blandish him with food and try to mollify him with a variety of attractive baits, offering him what will fill his stomach and assuage his passion. Yet he is displeased with them and takes no notice of them. So what device do the Indians adopt to meet this? They introduce native music and charm the Elephants with a musical instrument that is in common use; it is called *scindapsus*. And the Elephant lends an ear and is pacified; his rage is softened, and his passion is subdued and allayed, and little by little he begins to notice his food. Then he is freed from his bonds but remains captivated by the music, and eats his food with the eagerness of a man faring sumptuously: for in his love for the music he will no longer run away.

But the mares of Libya (for we must listen to the; second account as well) are equally captivated by the sound of the pipe. They become gentle and tame and cease to prance and be skittish, and follow the herdsman wherever the music leads them; and if he stands still, so do they. But if he plays his pipe with greater vigour, tears of pleasure stream from their eyes. Now the herdsmen of the mares

hollow a stick of rose-laurel, fashion it into a pipe, and blow into it, and thereby charm the aforesaid animals. And Euripides speaks of some 'marriage songs of shepherds'; this is the pipe-music which throws mares into an amorous frenzy and makes horses mad with desire to couple. This in fact is how the mating of horses is brought about, and the pipe-music seems to provide a marriage song.

12.45 Sufficient proof that Dolphins love song and the music of pipes is supplied by Arion of Methymna in his statue on Taenarum and the inscription written upon it. The inscription runs

'Sent by the immortals this mount saved Arion son of Cycleus from the Sicilian main.'

And Arion wrote a hymn of thanks to Poseidon that bears witness to the Dolphins' love of music and is a kind of payment of the reward due to them also for having saved his life.

This is the hymn.

'Highest of the gods, lord of the sea, Poseidon of the golden trident, earth-shaker in the swelling brine, around thee the finny monsters in a ring swim and dance, with nimble Singings of their feet leaping lightly, snub-nosed hounds with bristling neck, swift runners, music-loving dolphins, sea-nurslings of the Nereid maids divine, whom Amphitrite bore, even they that carried me, a wanderer on the Sicilian main, to the headland of Taenarum in Pelops' land, mounting me upon their humped backs as they clove the furrow of Nereus' plain, a path untrodden, when deceitful men had cast me from their sea-faring hollow ship into the purple swell of ocean.'

So to the characteristics of dolphins mentioned earlier on I think we may add a love of music.

12.46 There is an Etruscan story current which says: that the wild boars and the stags in that country are caught by using nets and hounds, as is the usual manner of hunting, but that music plays a part, and even the larger part, in the struggle. And how this happens I will now relate. They set the nets and other hunting gear that ensnare the animals in a circle, and a man proficient on the pipes stands there and tries his utmost to play a rather soft tune, avoiding any shriller note, but playing the sweetest melodies possible. The quiet and the stillness easily carry (the sound) abroad; and the music streams up to the heights and into ravines and thickets in a word into every lair and resting-place of these animals. Now at first when the sound penetrates to their ears it strikes them with terror and fills them with dread, and then an unalloyed and irresistible delight in the music takes hold of them, and they are so beguiled as to forget about their offspring and their homes. And yet wild beasts do not care to wander away from their native haunts. But little by little these creatures in Etruria are attracted as though by some persuasive spell, and beneath the wizardry of the music they come and fall into the snares, overpowered by the melody.

12.47 The Anthias, if wounded while it is being captured, is a most pitiful sight, and as it dies seems to be mourning for itself and to be somehow imploring, like men who have fallen among pitiless and most bloodthirsty brigands. For some of these fish in their attempt to escape get entangled in the nets, and as they try to leap out of the ambush are caught by the harpoon. Others which contrive to escape this death, spring out on to the shore, hitherto the fishes' enemy, preferring, and gladly so, death without the aid of the sword.

## Book 13

13.1 I have heard that an eagle intimated to Gordius that his son Midas would be king when, as he was ploughing, it flew over Gordius, and then settling upon the yoke, remained with him all day long and did not depart before he finished his ploughing at eventide when the hour for unyoking was at hand.

And when Gelon of Syracuse was a boy an immense wolf sprang into the schoolroom and with its teeth snatched his writing-tablet from his hands. And Gelon rose from his seat and gave chase, not being afraid of the beast but clinging valiantly to his writing-tablet. And when he got outside the schoolroom, [the roof] fell and crushed the boys along with the master. It was by divine providence that Gelon was the only one to escape. And the strange thing is that the wolf did not kill a man but saved his life, for the gods did not disdain to foreshow a kingdom to one even by means of a dumb animal, and to save the other from danger that threatened.

So it is characteristic of animals to be beloved of the gods.

13.2 This is how the people of Caria catch Sargues. 'When the south wind is blowing gently and sending softer breezes and when the waves are at rest and chime lightly upon the sands, then the fisherman has no need of his reed, but taking a rod of very tough juniper he fastens a cord on the end and spits a half-pickled anchovy on the hook and lets it down into the sea. And he sits in the prow of the skiff and dangles the lure, while his boy rows gently, having purposely been instructed beforehand in the art of leisurely propulsion, and makes the skiff move in the direction of the shore. And the Sargues dart up in their numbers from their native lairs and gambol around and collect about the hook. For the fish, long dead indeed but prepared for catching, draws them as it were with a spell. Presently when they are close to the shore they are easily caught, being made prisoners through their belly's greed.

13.3 The haunts of fishes are numerous: some are found among rocks, others in sand, others again among vegetation, for you must know there is vegetation even in the sea, and some is called 'oyster-green,' some 'vines,' certain kinds 'grapes,' and others 'grass-wrack.' And it seems that the name 'cabbage' also is attached to marine vegetation, and some kinds are called 'seaweed' and some 'hair.' And some fish feed on one kind, others on another, and a fish that is accustomed to the food on which it has been reared and to which, it is, so to say, akin would never touch any other kind.

13.4 You may hear fishermen speak also of a fish they call *Callionymus* (Star-gazer). And concerning it Aristotle says it has a considerable quantity of gall stored close to the right-hand lobe of the liver, and that its liver is situated on its left side. And Menander bears witness to these statements when he says in his Messenian woman, I think, 'I will make you have more gall than a Stargazer'; and Anaxippus in his *Epidicazomenus*:

'If you rouse me and make all my gall boil like a Star-gazer's, you will find that I differ no whit from a sword-fish.'

There are those who assert that it is edible; most people however assert the contrary. But you will not easily discover any mention of the Star-gazer in any description of fish-banquet, although poets



have been at pains to record every fish of any value; they are Epicharmus in his *Hebe's Wedding*, his *Land and Sea*, and also his *Muses*, and Mnesimachus in his *Isthmian Victor*.

13.5 The Fishing-frog also lays an egg, as birds do, for it is not viviparous, because its new-born young have a large, rough head, and for that reason it is incapable of taking them back when they are frightened. For their re-entry will lacerate, and injure the parent, and were they to be born alive and, to emerge so, they would produce the same effect. And so they are not well adapted to producing their young alive nor are they a secure place of refuge for them. The egg of the Fishing-frog does not conform to the nature and character of an egg, for even that is rough and has scales, and you will find it hard if you touch it.

13.6 Octopuses naturally, with the lapse of time, attain to enormous proportions and approach cetaceans and are actually reckoned as such. At any rate I learn of an octopus at Dicaearchia in Italy which attained to a monstrous bulk and scorned and despised food from the sea and such pasturage as it provided. And so this creature actually came out on to the land and seized things there. Now it swam up through a subterranean sewer that discharged the refuse of the aforesaid city into the sea and emerged in a house on the shore where some Iberian merchants had their cargo, that is, pickled fish from that country in immense jars: it threw its tentacles round the earthenware vessels and with its grip broke them and feasted on the pickled fish. And when the merchants entered and saw the broken pieces, they realised that a large quantity of their cargo had disappeared; and they were amazed and could not guess who had robbed them: they saw that no attempt had been made upon the doors; the roof was undamaged; the walls had not been broken through. They saw also the remains of the pickled fish that had been left behind by the uninvited guest. So they decided to have their most courageous servant armed and waiting in ambush in the house. Well, during the night the Octopus crept up to its accustomed meal and clasping the vessels, as an athlete puts a strangle-hold upon his adversary with all his might gripping firmly, the robber — if I may so call the Octopus — crushed the earthenware with the greatest ease. It was full moon, and the house was full of light, and everything was quite visible. But the servant was not for attacking the brute single-handed as he was afraid, moreover his adversary was too big for one man, but in the morning he informed the merchants what had happened. They could not believe their ears. Then some of them remembering how heavily they had been mulcted, were for risking the danger and were eager to encounter their enemy, while others in their thirst for this singular and incredible spectacle voluntarily shut themselves up with their companions in order to help them. Later, in the evening the marauder paid his visit and made for his usual feast, whereupon some of them closed off the conduit; others took arms against the enemy and with choppers and razors well sharpened cut the tentacles, just as vine-dressers and woodmen lop the tips of the branches of an oak. And having cut away its strength, at long last they overcame it not without considerable labour. And what was so strange was that merchants captured the fish on dry land. Mischief and craft are plainly seen to be characteristics of this creature.

13.7 The people of India heal the wounds of Elephants which they have captured in the following manner. They foment them with warm water, just as Patroclus fomented the wound of Eurypylos in our noble Homer, and then anoint them with butter. But if they are deep, they reduce the inflammation by applying and laying on them pigs' flesh hot and with the blood still in it. Their ophthalmia they treat by warming some cow's milk and pouring it into their eyes, and the Elephants open their eyelids and are gratified just as men are, to perceive what benefit they derive. And the Indians continue the bathing until the inflammation ceases; this is evidence that the ophthalmia has

been arrested. As for other diseases that afflict them, black wine is the cure for them. But if this medicine does not rid them of their complaint, then nothing will save them.

13.8 An Elephant belonging to a herd but which hits been tamed drinks water; but an Elephant that fights in war drinks wine, not however that made from grapes, for men prepare a wine from rice or from cane. And these tame Elephants go out to gather flowers for themselves, for they love a sweet smell and are led to the meadows to be trained by the most fragrant scent. And an Elephant using its sense of smell will pick out a flower, while the trainer, basket in hand, holds it out beneath the picker as he throws it in. Later when it has filled the basket, like a fruit-gatherer it has a bath and takes as much pleasure in the bath as the more luxurious of mankind do. Then on its return it wants the flowers, and if the keeper delays, it trumpets and refuses food until somebody brings it the flowers it has gathered. Then it picks them out of the basket with its trunk and sprinkles them along the rim of its manger, for it regards them as imparting a flavour, as it were, to its food by means of their scent. And it scatters a quantity of flowers over its stall, as it desires a fragrant sleep. It seems that Indian Elephants are nine cubits high and five wide, and the largest are those they call Prasian; next to these one may reckon those from Taxila.

13.9 To control an Indian Horse, to check him when he leaps forward and would gallop away, has not, it seems, been given to every man, but only to those who have been brought up from childhood to manage horses. For it is not the Indian custom to rule them, to bring them to order, and to direct them by means of the rein but by spiked muzzles; thus their tongue goes unpunished and the roof of their mouth untormented. Still, those who are skilled in horsemanship compel them to go round and round, returning to the same point. Now if a man would do this he requires strength of hand and a thorough understanding of horses. Those who have attained the summit of this science even try by these means to drive a chariot in circles. And it would be no contemptible achievement to make a team of four ravenous horses circle about with ease And the chariot holds two beside the driver. But a War-elephant in what is called the tower, or even, I assure you, on its bare back, free of harness, carries as many as three armed men. . . . who hurl their weapons to left and right, and a third behind them, while a fourth holds the goad with which he controls the beast, as a helmsman or pilot of a vessel controls a ship with the rudder.

13.10 The hunting of Leopards seems to be a Moorish practice. The people build a stone structure, and it resembles a kind of cage: this is the first part of the ambush; and the second part is this: inside they fasten a piece of meat that has gone bad and smells, by a longish cord and set up a flimsy door made of plaited reeds of some kind, and, through them the smell of the aforesaid meat is exhaled and spreads thread. The animals notice it, being for some reason fond of ill-smelling objects, because the scent from them assails them whether they are on mountain tops or in a ravine or even in a glen. Then when the Leopard encounters the smell it gets excited and in its excessive desire comes rushing to the feast it loves: it is drawn to it as though by some spell, then it dashes at the door, knocks it down, and fastens upon the fatal meal; fatal, because on to the aforesaid cord there has been woven a noose most dexterously contrived, and as the meat is being eaten this is dislodged and encircles the gluttonous Leopard. So it is caught and pays the penalty for its ravenous belly and its foul feasting, the poor wretch.

13.11 Hares are caught by Foxes more often than not through an artifice, for the Fox is a master of trickery and knows many a ruse. For instance, when by night it comes upon the track of a Hare and has scented the animal, it steals upon it softly and with noiseless tread, and holds its breath, and finding it in its form, attempts to seize it, supposing it to be free of fear and anxiety. But the Hare is

not a luxurious creature and does not sleep carefree, but directly it is aware of the Fox's approach it leaps from its bed and is off. And it speeds on its way with all haste; but the Fox follows in its track and continues its pursuit. And the Hare after covering a great distance, under the impression that it has won and is not likely to be caught, plunges into a thicket and is glad to rest. But the Fox is after it and will not allow it to remain still, but once again rouses it and stimulates it to run again. Then a second course no shorter than the first is gone through, and the Hare again longs to rest, but the Fox is upon it and by shaking the thicket contrives to keep it from sleeping. And again it darts out, but the Fox is hard after it. But when it is driven into running course after course without intermission, and want of sleep ensues, the Hare gives up and the Fox overtakes it and seizes it, having caught it not indeed by speed but by length of time and by craft. Anyhow the account, by starting with the running of the Hare, has got too far ahead; the remainder it will be more appropriate to relate in the sequel. But I will return to the point at which I was diverted. It seems that the reason why it distributes its young and rears them in different spots is as follows. The Hare is deeply devoted to its offspring and dreads both the designs of huntsmen and the attacks of foxes; and it has no less a horror of the attacks of birds, and even more so of the cry of ravens and of eagles. For there is no treaty of peace between these birds and it. And it conceals itself in some leafy bush or deep corn-field or protects itself behind some other enforced and unassailable shelter.

13.12 I have heard from one who is a hunter and a good man besides, the kind that would not tell a lie, a story which I believe to be true and shall therefore relate. For he used to maintain that even the male Hare does in fact give birth and produce offspring and endure the birthpangs and partake of both sexes. And he told me how it bears and rears its young ones, and how it brings perhaps two or three to birth; and he bore witness to this too, and then as the finishing touch to the whole story added the following. A male Hare had been, caught in a half-dead state, and its belly was enlarged; being pregnant. Now he admitted that it had been cut open and that its womb, containing three leverets had been discovered. These, he said, which so far were undisturbed, were taken out and lay there like lifeless flesh, When however they were warmed by the sun and had spent some time slowly acquiring a little heat, they came to themselves and revived, and one of them, I suppose, stirred and looked up and presently put out its tongue as well and opened its mouth in its craving for nourishment. Accordingly some milk was brought, as was proper for such young creatures, and little by little they were reared up, to furnish (in my opinion) an astonishing proof of their birth by a male. I cannot prevail upon myself to doubt the story, the reason being that the narrator's tongue was a stranger to falsehoods and exaggeration.

13.13 It seems that the Hare knows about winds and seasons, for it is a sagacious creature. . . During the winter it makes its bed in sunny spots, for it obviously likes to be warm and hates the cold. But in summertime it prefers a northern aspect wishing to be cool. Its nostrils, like a sundial, mark the variation of the seasons. The Hare does not close its eyes when sleeping: this advantage over other animals it alone enjoys and its eyelids are never overcome by slumber. They say that it sleeps with its body alone while it continues to see with its eyes. (I am only writing what experienced hunters say.) Its time for feeding is at night, which may be because it desires unfamiliar food, though I should say that it was for the sake of exercise, in order that, while refraining from sleep all this time and full of activity, it may improve its speed. But, it greatly likes to return to its home and loves every spot with which it is familiar. That, you see, is why it is generally caught, because it cannot endure to abandon its native haunts.

13.14 The Hare when pursued by hounds and horsemen runs, if it is a denizen of the plains, swifter than the Mountain Hare, as its body is small and slim. Hence it is not unnatural for it to be nimble.

At any rate to begin with it leaps and bounds from the earth and slips through thickets and across marshy ground with ease, and wherever the grass is deep it escapes without difficulty. And just as they say that the tail of the lion can rouse and stimulate it, so it is with the ears of the Hare: they are signals for speed and excite it to run. At any rate it lays them back and uses them as goads to prevent it from lagging and hesitating. But its course is not uniform and straight, but it turns aside now right now left and doubles this way and that, bewildering, and deluding the hounds. And in whatever direction it wants to swerve in its course, it droops one ear to that avenue of escape, as though it were steering its course therewith. It does not however squander its powers, but observes the pace of its pursuer; and if he is tardy, it does not put forth its whole strength but keeps itself in check somewhat, enough to outrun the hound but not enough to exhaust itself by intense speed. For it knows that it can run faster and realises that this is not the moment for it to over-exert itself. If however the hound is very swift, then the Hare runs as fast as its feet can carry it. And when at length it has got far ahead and has left hunters, hounds, and horsemen a long way behind, it races up some high hill and sitting up on its hind legs surveys as from a watch-tower the efforts of its pursuers and, as I think, laughs at them for being feebler than itself. Then emboldened by the advantage it has gained, like one who has achieved peace and calm, it is glad to rest and lies down to sleep.

The Mountain Hares, however, are not so swift as those that live in the plains, unless indeed the former also have plain-land lying below into which they can descend and run about. Though their home is on a mountain they exercise themselves in the plain, often running about with the Hares there. The usual thing when they are pursued in the plain is for them to start up and to lie hid by turns, but since they are constantly forced out, not one escapes. But when they are on the point of being caught they change suddenly their direction over the plain and dart uphill into the mountains, speeding of course to their native haunts, their proper domain; and in this way they escape and are gone, reaching unexpected safety, for horses and hounds dislike going up mountains, since their feet give out and are very quickly worn down, while hounds suffer even worse, their paws being fleshy and having nothing to resist the rocks, as horses have their hooves. The Hare on the contrary has naturally hairy paws and is quite content with rough ground. All Hares that live among thickets and bushes are sluggish runners and slow to flee, for such animals have grown plump and from sloth are not habituated to running and are quite incapable of going a long distance from their thickets. The method of hunting them is as follows. To begin with these Hares slip through the little bushes of which the foliage is not a solid mass, but where it is denser they naturally leap over them as they cannot get beneath them. But other bushes grow in a solid mass with their branches interlaced. So where the bushes are of this nature the Hare is constantly obliged to do this, and since the weight of its body does not dispose it to be good at jumping, it very soon tires and gives up. At first the hounds are baffled and lose the track, for owing to the thickness of the wood they fail to see the quarry; but they too leap over the bushes and are led by the scent. Finally however they catch sight of it and are after it, never pausing for a moment, whereas the Hare exhausted by the continual leaping gives up and so is caught. Hares run up steep, high ground with the utmost ease, for their hind legs are longer than the front ones; They run down less easily, for the shortness of their front legs is a handicap to them.

13.15 There is also another kind of Hare, small by nature, and it never grows larger. It is called a Rabbit. I am no inventor of names, which is the reason why in this account I preserve the original name given to it by the Iberians of the west in whose country the Rabbit is produced in great numbers. Its colour compared with that of hares is dark; it has a small tail, but in other respects it is like them. A further difference is in the size of its head, for it is smaller and curiously scant of flesh

and shorter. But it is more lustful than the hare . . . which cause it to go raving mad when it goes after the female. [The stag also has a bone in its heart, and someone else shall make it his business to discover what purpose it serves.]

13.16 The pursuit of the Tunny is commonly designated as 'big fishing' by the people of Italy and Sicily, and the places in which they are in the habit of storing their huge nets and other fishing gear are called 'big-fishing tackle stores,' for they wish henceforward to segregate the huge Tunny into the class of 'big fishes.' And I learn that the Celts and the people of Massalia and all those in Liguria catch Tunny with hooks; but these must be made of iron and of great size and stout. So much then for Tunnies in addition to what I have already said earlier on.

13.17 Those who are in the habit of fishing round the Tyrrhenian islands as they are called, hunt a gigantic fish which they call the Aulopias, and it is worth while to describe its characteristics. In the matter of size the largest Aulopias yields to the largest Tunnies, but if matched against them it would take the prize for strength and courage. True, the Tunny also is a powerful species of fish, but after its first onset against its adversary and vigorous opponent it forgoes its strength, and as its blood congeals, it very soon surrenders; and is then caught. The Aulopias on the contrary carries on the struggle for a long time when it is attacked with vigour, and withstands the fisherman as it would an adversary, and on most occasions gets the better of him by gathering itself together, bowing its head, and thrusting down into the depths; it has a forceful jaw and a powerful neck and is exceedingly strong. But when it is captured it is a most beautiful sight: it has wide open eyes, round and large, such eyes as Homer sings of in oxen. And the jaw, though powerful, as I remarked, contributes to its beauty. Its back is like the colour of the deepest lapis lazuli, its belly underneath is white. A stripe of a golden hue starts at the head and descending to the region of the tail ends in a circle.

I wish to speak also of the artifices employed in hunting it which I remember to have heard. The fishermen previously select spots from a large area where they suppose the Aulopiae to be congregating and after catching a number of Crow-fish in their bag-nets they anchor their boat and maintain a continuous din; the Crow-fish they make fast in a noose and let out on a line. Meanwhile the Aulopiae hearing the din and observing the bait, come swimming up from all sides and congregate and circle about the boat. And the din and the quantity of food have such a soothing effect upon them that, even though men reach out their hands, they remain and submit to the human touch because, as I judge, they are slaves to food, and in fact, as their pursuers maintain, because their strength gives them confidence. There are also tame ones among them which the fishermen recognize as their benefactors and comrades, so with them they maintain a truce. And other strange fishes follow them like leaders, and these, aliens, as one might call them, the men hunt and kill, but the tame fish, which may be likened to decoy-doves, they do not hunt but spare, nor would any prudent fisherman ever be reduced to such straits as to catch a tame Aulopias deliberately, for if by some mischance one happens to be caught it brings trouble. The fish is captured either by being pierced with a hook or by being mortally wounded.

We see bird-catchers also abstaining from killing birds that decoy others, whether for sale or for the table. There are other methods besides of catching these fish.

13.18 In the royal residences in India where the greatest of the kings of that country lives, there are so many objects for admiration that neither Memnon's city of Susa with all its extravagance, nor the magnificence of Ecbatana is to be compared with them. (These places appear to be the pride of Persia, if there is to be any comparison between the two countries.) The remaining splendours it is

not the purpose of this narrative to detail; but in the parks tame peacocks and pheasants are kept, and they (live) in the cultivated shrubs to which the royal gardeners pay due attention. Moreover there are shady groves and herbage growing among them, and the boughs are interwoven by the woodman's art. And what is more remarkable about the climate of the country, the actual trees are of the evergreen type, and their leaves never grow old and fall: some of them are indigenous, others have been imported from abroad after careful consideration. And these, the olive alone excepted, are an ornament to the place and enhance its beauty. India does not bear the olive of its own accord, nor if it comes from elsewhere, does it foster its growth.

Well, there are other birds besides, free and unenslaved, which come of their own accord and make their beds and resting-places in these trees. There too Parrots are kept and crowd around the king. But no Indian eats a Parrot; in spite of their great numbers, the reason being that the Brahmins regard them as sacred and even place them above all other birds. And they add that they are justified in so doing, for the Parrot is the only bird that gives the most convincing imitation of human speech. There are also in these royal domains beautiful lakes, the work of man's hands, which contain fish of immense size and tame. And nobody hunts them, only the king's sons during their childhood; and in calm waters, quite free from danger, they fish and sport and even learn the art of sailing as well.

13.19 In the Ionian sea off Leucatas and in the waters round Actium (the country there they call Epirus) Mullet abound, swimming, so to say, in companies and vast multitudes. These fish are hunted, and in a most astounding manner. The method is as follows. The local fishermen watch for a moonless night and after supper pair off and launch a skiff while there is neither wave nor swell but the sea is calm, and then row forward quietly by slow degrees. One of the men gently agitates the water with his oar, propelling the boat step by step: so to speak, while the other propped on his elbow weighs down his end of the boat, depressing it until the gunwale is nearly at the water-level. And the Mullet and others of their kind, either because they enjoy the night or because they delight in the calm, quit their holes and lairs, swim up, and show the tip of their head above the water and are so occupied in swimming to the surface that they draw near to the shore. So the fishermen observing this, begin to sail, and the rush of the boat starts a gentle ripple. Therefore the fish in fleeing from the shore turn and owing to their numbers jostle one another into the portion of the boat sloping toward them, and once inside are caught.

13.20 Sea-monsters of excessive bulk and of prodigious size swim in mid-ocean, and are at times struck by lightning. Besides these there are others of the same kind that come close to the shore, and their name is *Trochus* (wheel). These swim in droves, especially on the right side of Thracian Athos and in the bays as one sails from Sigeum, and one may encounter them along the mainland opposite, close to what is called the Tomb of Artachaeus and the isthmus of Acanthus where the canal which the Persian King cut through Athos is to be seen. And they say that these monsters which they call *Trochus* are timid, though they expose their crest and spines of enormous length so that they are often seen above the water. But at the sound of oars they revolve and contract and plunge as deep as they can go. It is from this, you see, that they derive their name. And again they uncoil and with a rolling motion swim up to the surface.

13.21 Concerning Tritons, while fishermen assert that they have no clear account or positive proof of their existence, yet there is a report very widely circulated of certain monsters in the sea, of human shape from the head down to the waist. And Demostratus in his treatise on fishing says that he has seen a Triton in pickle. It was, he says, in most respects as portrayed in statues and pictures, but its head had been so marred by time and was so far from distinct that it was not easy to make it out

recognize it. 'And when I touched it there fell from it rough scales, quite hard and resistant. And a member of the Council, one of those chosen by lot to regulate the affairs of Greece and entrusted with the government for a single year, intending to test and prove the nature of what he saw, removed a small piece of the skin and burn it in the fire; whereupon a noisome smell from the burning object thrown into the flames assailed the nostrils of the bystanders. But he says, 'we were unable to guess whether the creature was born on land or in the sea.' The experiment however cost him dear, for shortly afterwards he lost his life while crossing a small, narrow strait in a short, six-oared ferry-boat. And the inhabitants of Tanagra maintained, so he says, 'that this befell him because he profaned the Triton, and they declared that when he was, taken lifeless from the sea he disgorged a fluid which smelt like the hide of the Triton at the time when the man cast it into the fire and burnt it. As to the quarter from which the Triton strayed and how he came to be east ashore here, the inhabitants of Tanagra and Demostratus must explain. In view of these facts I bow to the god, and a witness of such authority claims our belief; and Apollo of Didyma must be a sufficient guarantee to every man of sound mind and strong intelligence. At any rate he says that the Triton is a creature of the sea, and his words are

'A child of Poseidon, portent of the waters, a clear-voiced Triton, encountered as he swam the rush of a hollow vessel.'

If then the omniscient god says that Tritons do exist, we should entertain no doubts on the subject.

13.22 When the Indian King sets forth to administer justice an Elephant first bows down before him: it has been taught to do so and remembers perfectly and obeys. (At its side stands the man who teaches it; to remember its instruction by a stroke from his goad and by some words in his native speech which thanks to a mysterious gift of nature peculiar to this animal the Elephant can understand.) Moreover it executes some warlike motion, as though it would show that it recollects this part of its teaching also. Four and twenty Elephants take it in turn to stand sentry over the King, just like the other guards, and are taught to keep watch and not to fall asleep: for this lesson also they are taught by Indian skill. And Hecataeus of Miletus says that Amphiaras, the son of Oicles, went to sleep during his watch and suffered the fate which he describes. These animals however are wakeful and are not overcome by sleep; they are the most trustworthy of the guards there, at any rate next to human beings.

13.23 Now in the course of examining and investigating these subjects and what bears upon them, to the utmost limit, with all the zeal that I could command, I have ascertained that the Scolopendra is a sea-monster, and of sea-monsters it is the biggest, and if cast up on the shore no one would have the courage to look at it. And those who are expert in marine matters say that they have seen them floating and that they extend the whole of their head above the sea, exposing hairs of immense length protruding from their nostrils, and that the tail is flat and resembles that of a crayfish. And at times the rest of their body is to be seen floating on the surface, and its bulk is comparable to a full-sized trireme And they swim with numerous feet in line on either side as though they were rowing themselves (though the expression is somewhat harsh) with tholepins hung alongside. So those who have experience in these matters say that the surge responds with a gentle murmur, and their statement convinces me.

13.24 Xenophon has also the following remarks touching Hounds. You should take them to the mountains frequently, but less frequently on to fields. For the beaten tracks on cultivated lands injure and mislead them. And the same writer says that it is better to take them on to rough ground, and

points out the additional advantage of so doing, viz that by exercising their bodies their legs gain in strength and ability to jump. He also says that in winter the Hare's scent is perceptible for a long time because of the length of the nights, but in summer this is so no more, for the opposite reason. The meaning of 'the opposite' is clear from what has been said above.

13.25 The Indians value Horses and Elephants as animals serviceable under arms and in warfare: and they value them very highly. At any rate they bring to the King trusses of hay which they throw into the mangers, and fodder which they show to be fresh and undamaged. And if it is so, the King thanks them; if it is not, he punishes the keepers of the Elephants and the grooms most severely. But he does not reject even other and smaller animals but accepts the following also when brought to him as presents. For the Indians do not disparage any animal whether tame or wild. For example, those of his subjects who hold high office bring him presents of cranes, geese, hens, ducks, turtle-doves, francolins; also, partridges, spindaluses (this bird resembles the francolin), and even smaller birds than the aforementioned, the boccalis, beccaficos, and what are called ortolans. And they uncover their gifts and display them, to prove how thoroughly plump they are they bring also a wealth of fattened stags, of antelopes, of gazelles, and one-horned asses, which I have mentioned somewhere earlier on, and different kinds of fish also.

13.26 There is also a Cicada that lives in the sea, and the largest one is like a small crayfish, though neither its horns nor its stings are as long as those of the crayfish. The Sea-cicada is of a darker hue than the crayfish, and when caught appears to squeak. From beneath its eyes there grow small wings, and these also resemble those of the land-cicada. But few people eat it, since they regard it as sacred. And I have heard that the inhabitants of Seriphus even bury any that is dead when caught; if however a live one falls into their nets, they do not keep it but return it to the sea. And they even mourn for these creatures when dead and assert that they are the darlings of Perseus the son of Zeus.

13.27 The Hyena fish has the same name as the land-hyena. Now if you put its right-hand fin under a man asleep, you will give him a considerable shock. For he will see fearful sights, forms and apparitions, dreams too, sinister and unwelcome. Further, if you cut off the tail of a live Horse-mackerel and let the fish go again in the sea, and then attach the aforesaid tail to a mare in foal, she will presently drop her foetus and will miscarry.

Again, if a youth wants to keep his chin hairless for as long as possible, the blood of a Tunny rubbed on renders him beardless. And the Torpedo and the Jelly-fish have the same effect, for if their flesh is dissolved in vinegar and rubbed on the cheeks, they say that it banishes hair. What have those contrivers of evil from Tarentum and Etruria to say to this, men who after experimenting with pitch have discovered that artifice whereby they differentiate men and turn them into women?

13.28 Of all fishes the Gilthead is the most timid. When the season of neap-tides coincides with Arcturus, the sea recedes from the beach and the sand is left bare and vessels frequently stand high and dry for want of water. Accordingly the inhabitants take branches of poplar-trees, green and in leaf, and after sharpening them like stakes, fix them in the sand and withdraw. Later the returning tide draws in a countless multitude of the aforesaid fishes; again it ebbs, leaving a great number of Giltheads in shallow water wherever low-lying or hollow spots may be found, and the fish cower beneath the branches and remain still. For they are terrified by the branches when the oncoming wind stirs and shakes them, and neither quiver nor dart about. It is quite easy, you might say, for anyone who sets upon the mob of timorous fish to capture and strike them. At any rate it is not only



skilled fishermen that can catch them, but any inexperienced person who chances to be at hand, even children and women.

## Book 14

14.1 In the Ionian Sea close to Epidamnus where the Taulantii live, there is an island and it is called 'Athena's Isle,' and fisher folk live there. There is also a lagoon in the island where shoals of tame Mackerel are fed. And the fishermen throw in food to them and observe a treaty of peace with them; so the fish are free and immune from pursuit and attain to a great age; there are even ancient Mackerel living there. Yet they do not feed without making any return, nor do they fail in gratitude for their food, but after they have been fed by the fishermen in the morning they too of their own accord go to join the pursuit, as though they were paying for their maintenance. And advancing beyond the harbour they set out to meet the strange Mackerel. When they have encountered them as it were in a company or in line of battle, they swim up to them as being of the same family and the same kind, nor do the strangers flee from them, nor do the tame fish attempt to divert them but bear them company. Presently the tame fish surround the newcomers, and having encircled them, close their ranks and cut off the fish in their midst, amounting to a great number, and prevent them from escaping; they wait for their keepers and provide the fishermen with a feast in return for the satisfaction of their own appetites. For the fishermen arrive, catch the strangers, and perpetrate a massacre. But the tame fish return with all haste to the lagoon, dive into their lairs, and wait for their afternoon meal, which the fishermen bring, if they want allies and loyal friends as fellow-hunters. And this happens every day.

14.2 Experienced fishermen teach us that if you give a man whose liver is out of order and who is afflicted with jaundice, the gall of a Parrot Wrasse, he will be cured.

14.3 Fish are caught without weels or hooks or nets in the following manner. There are many bays in the sea which end in shallows, and one can walk in them. When, therefore, it is calm and the winds are at rest, skilled fishermen bring a number of people to the spot and then direct them to walk about and trample the sand, throwing all their weight on to the soles of their feet. As a result deep footprints are left, and if they are preserved and the sand does not collapse and obliterate them, and if the Water is not agitated by the wind, after a short interval the fishermen enter and in the trodden hollows and footprints capture flat fish asleep, viz flounders, turbot, plaice, torpedo-fish, and the like.

14.4 I have spoken earlier on about the Sea-urchin and I will now mention what more I have heard. It is also good for the stomach: it helps a man who has been suffering from loss of appetite and loathing every kind of food to regain his strength; it is also a diuretic, according to those who know about these things. And if you rub it on one who is suffering from the itch, it cures a man hitherto afflicted with the aforesaid disease. And if you burn a Sea-urchin, shell and all, it cleanses suppurating wounds. If you burn a Hedgehog and mingle the ashes with pitch and then rub them on those parts where the hair has fallen off, the fugitives (if I may be allowed the joke) will sprout again. If drunk with wine, it is good for the kidneys; it is also a cure for dropsy when drunk, as in fact I remarked before. Further, the liver of a Hedgehog, if desiccated by the sun, is a cure for those who suffer from the disease known as elephantiasis.

14.5 Those who are learned in these matters constantly assert that the tusks of the female Elephant are more valuable than those of the male, and this is what they teach us. In Mauretania Elephants are in the habit of dropping their tusks every tenth year, just as stags drop their horns, though with stags it is every year. Now these Elephants prefer a level, well-watered country to any other, and they go down upon their knees and rest their tusks upon the ground in their passionate desire to shed their tusks. And they thrust with such force as finally to bury them in the ground. Next, with their feet they gently scrape and make smooth the spot that guards their treasure. Now the soil is extremely fertile and in a very short while sends up a crop of grass and effaces the evidence of what occurred for those who pass by. But those who track down these secreted objects and who have some knowledge of the Elephants' designs, bring water in goatskins and disperse them, well filled, in different places, and themselves remain where they are. And one sleeps while another drinks a little, and I dare say that in the intervals of quaffing from his cup he sings to himself and remembers his sweetheart in his song; (Nor should I be surprised if a man tries to seduce some well-grown boy who is with him and is his companion in the quest, for the Moors are handsome, stalwart, and of manly aspect, and are devotees of the chase: and many a heart do they inflame too, while still boys, though they are so big). So then if those tusks have been buried near by, by some mysterious and amazing spell they draw the aforesaid water out of the skins and leave them empty. Thereupon the men dig up the ground with mattocks and picks, and the spoil which they have tracked down without the aid of dogs is theirs. If however the skins remain filled in the place where the tusk-hunters laid them, they go off on a fresh quest and again bring the skins and the water, the instruments of the hunt which I have described.

14.6 The Elephant is even said to possess two hearts I and to think double: one heart is the source of anger, the other of gentleness. In saying this I am following accounts given by the Moors. Moreover the same people constantly affirm the following, namely that there are lynxes, and that they are even more snub-nosed than the leopard, and that the tips of their ears are hairy. The Lynx has a wonderful spring and can maintain the most vigorous and overpowering grip on its catch. So it seems that Euripides bears witness to the unloveliness of this beast when he says somewhere

'And he comes bearing upon his shoulders either the burden of a boar, or the mis-shapen lynx, a ravening brute ill-conceived.

But why he says 'ill-conceived' is rather a question for the grammarians.

14.7 Concerning the Ostrich one may also mention the following facts. If you kill an Ostrich and wash out its stomach it will be found to contain pebbles which the bird has swallowed and keeps in its gizzard and in time digests. And these pebbles are an aid to the human digestion; its sinews also and its fat are good for the human sinews.

Now the capture of this bird is effected by means of horses, for it runs in a circle keeping to the outer edge, but the horsemen intercept it by keeping on the inner side of the circle, and by wheeling in a narrower compass at length overtake it when it is exhausted with running. And here is another way to catch it. It builds itself a nest low down on the ground after scooping out the sand with its feet. The centre of the nest is hollow, but it builds up the lips all round and walls off the nest so that the lips may keep out the rain and prevent it from streaming into the nest and deluging the young at a tender age. It lays over eighty eggs, but does not hatch them simultaneously, nor do they all emerge to daylight at the same time, but while some have already been born, others are still acquiring consistency within the shell. Others again are being kept warm. When therefore the Ostrich is so

engaged, a man — not a witless person but one who has experience of this kind of hunting — who has seen her, fixes some sharp spears round the nest, planting them upright by the ferrule; and the iron shines. Then he withdraws and lies in wait to see the result. So the Ostrich returns from her feeding-ground full of love for her chicks and yearning to be with them. And first of all she casts her eyes around; looking this way and that for fear someone should catch sight of her. And then overcome and stimulated by her longing, she spreads her wings like a sail and rushing at full speed leaps into her nest to die a most pitiful death entangled and impaled upon the spears. Then the hunter is at hand and seizes the young birds with their mother.

14.8 There is an Italian city in the regions towards the west, and its name is Patavium. They say that the city was the work of Antenor the Trojan. He founded it, having escaped with his life from his home when he left his native land after the capture of Troy, because the Greeks had compassion on him, since he saved Menelaus who came with Odysseus as ambassador to treat about Helen, when Antimachus advised that they should be put to death. These were Antimachus's words:

'He had accepted the gold of Paris, splendid gifts,'

as Homer says. Well, there is another city not far away which they call Vicetia, and past it there flows a river of the name of Eretaenus: it traverses a considerable area and then falls into the Eridanus, to which it imparts its waters. Now in the Eretaenus there are Eels of very great size and far fatter than those from any other place, and this is how they are caught. The fisherman sits upon a rock jutting out in some bay-like spot on the river where the stream widens out, or else upon a tree which a fierce wind has uprooted and thrown down close to the bank — the tree is beginning to rot and is no use for cutting up and burning. So the eel-fisher seats himself and taking the intestine of a freshly slaughtered lamb which measures some three or four cubits and has been thoroughly fattened, he lowers one end into the water, and keeps it turning in the eddies; the other end he holds in his hands, and a piece of reed, the length of a sword-handle, has been inserted into it. The food does not escape the notice of the Eels, for they delight in this intestine. And the first Eel approaches, stimulated by hunger and with open jaws, and fastening its curved, hook-like teeth, which are hard to disentangle, in the bait, continues to leap up in its efforts to drag it down. But when the fisherman realises from the agitation of the intestine that the Eel is held fast, he puts the reed to which the intestine has been attached to his mouth and blows down it with all his might, inflating the intestine very considerably. And the downflow of breath distends and swells it. And so the air descends into the Eel, fills its head, fills its windpipe, and stops the creature's breathing. And as the Eel can neither breathe nor detach its teeth which are fixed in the intestine, it is suffocated, and is drawn up, a victim of the intestine, the blown air, and thirdly of the reed. Now this is a daily occurrence, and many are the Eels caught by many a fisherman. This then is what I have to say of the habits peculiar to these fishes.

14.9 We also know that the Sea-lion is in some respects like the crayfish, though we see that the shape of its body is slimmer, with an added dash of dark blue colour; but it is sluggish though possessed of enormous claws resembling those of crabs. And it is said by the more experienced fishermen to have certain membranes attached to its shell, and beneath them are some portions of tender flesh which are called 'lobster-lard.' And these benefit mankind: they cleanse a muddy complexion, and if added to oil-of-roses and applied as an ointment, they contribute to a person's beauty and adornment. And I have also heard the following: that the Land-lion is terrified of the monstrous appearance of the Sea-lion and cannot endure the smell of it. And how the same Lion dreads a cock I have explained earlier on. They say also that if the Sea-lion's shell be ground down

and the powder cast into water, and the Land-lion drinks it, he becomes immune from troubles of the stomach. This then is what I have to say of the peculiarities of the Sea-lion.

14.10 The Asses of Mauretania gallop at a very great speed, at least at the start they are extremely swift: they seem like a rushing wind or, I do declare, the very wings of a bird. But they quickly tire; their feet weary; their breath fails; they forget their speed; they stand chained to the spot and shed copious tears, not, I think, so much from any fear of impending death as on account of the weakness of their feet. And so the men leap from their horses and throw halters round the Asses' necks, and each one securing an Ass to his horse, leads the one he has caught like a prisoner of war.

I have said earlier on that the horses of Libya are small in appearance but can gallop at very great speed.

14.11 It seems that of Libyan Cattle there are multitudes past numbering, and those that are wild and roam at large are exceedingly swift. And it often happens that hunters in pursuit of one animal go astray and fall in with others, fresh and untired. Meantime the hunted animal has plunged into a thicket or a glen and vanished, and others appear, exactly like it, and deceive the sight of the hunter. And if he should start to pursue one of these, he and his horse as well will be the first to give up the chase, for though in course of time he will overtake an animal already weary, he will not overtake those just starting to run; his horse will tire before they do.

Every year these Cattle are caught and slaughtered in great numbers, but their offspring take their place, and they are abundant. And they roam the land with their calves, the bulls along with the cows, some in calf, others with a calf lately born. If a man captures a calf while still young and does not slaughter it forthwith, he reaps a double advantage, because he captures the mother at the same time if he does what may fittingly be described here. He makes the calf fast with cord and then leaves it and withdraws. But the cow is wasted with yearning for her child and is goaded with ardent longing, and in her desire to release and carry it off attacks the bonds with her horns, hoping to fret them away and burst them. But whichever horn she inserts into the tangle of cord she is caught and held fast and remains by her calf, having failed on the one hand to release it, and on the other having entangled herself in bonds from which there is no escape. So then the hunter after removing the liver for his own use and cutting off the udder, which is still swollen, and flaying the hide, leaves the flesh for the birds and beasts to feed upon. But the calf he takes home entire, for it is extremely pleasant to eat, and also affords rennet which will curdle milk.

14.12 The Weever resembles other fishes in all other parts of its body excepting its head, and that is like the python both in the size of its eyes (those of the python also are large) and in its jaws, which to some extent are shaped like the python's. It has scales too and they are rough, and if one handles them they feel not unlike the skin of the python. Sharp spines spring from its body, which contain poison and cause harm if one touches them.

14.13 The Indian King by way of dessert eats the same things as, no doubt, the Greeks would desire to eat. But according to Indian accounts he feasts with the greatest relish upon a certain worm that is begotten in the date-palm, when fried; and they say that he derives such pleasure from the eating. . . . And their accounts convince me. The following also are additions to his meals, the eggs of swans, of ostriches, and of geese. Now I find no fault with the others, but that he should plot against the offspring and destroy the eggs of swans, the servants of Apollo and, as the common report has it, the most tuneful of birds, is a thing, my dear Indians, that I cannot approve.

14.14 I have a mind now to relate the following facts touching the Gazelles and Prickets of Libya. The Gazelles are very swift-footed; for all that they cannot outrun the Libyan horses. They are also caught with nets. The belly is grey, and this colour extends upwards to their flanks; and on either side of the belly black stripes creep down their bodies. The rest of the body however is light-brown; the legs are long; the eyes black; the head is adorned with horns; the ears are very long. But the Pricket, as poets call it, 'runneth very swiftly, even as the hurricane'; in appearance it is red and very shaggy, but its tail is white; its eyes are the colour of dark blue dye; its ears are filled with very thick hair; its horns incline forwards and are graceful, so that the creature comes on and while inspiring fear, is a thing of beauty. Now this Pricket does not display its speed only on land, but will plunge into a running river and cleave the stream by rowing, so to speak, with its hooves. And it loves to swim in a lake, and there, let me tell you, it obtains food and feasts upon the ever-flowering rush and galingale. So at the beginning of spring it empties its full belly; its udder drops and it suckles its young.

14.15 There is, I learn, a fish called *Myrus*, but from what source it has derived its name I cannot say. At any rate that is the name by which it is called. And they say that it is a sea-snake. Now if one takes out either of its eyes and wears it as an amulet, it cures a man of dry ophthalmia; but the *Myrus*, they say, grows a fresh eye. But you must let the fish go alive, otherwise you will preserve its eye to no purpose.

14.16 The Wild Goats which tread the mountain heights of Libya are about the size of oxen, but their thighs, breasts, and necks are covered with long and very shaggy hair, and so too are their jaws. Their foreheads are curved and rounded; their eyes are yellow, and their legs stumpy. Their horns, united at the beginning, part asunder and grow aslant: for they are not straight like those of other mountain goats but turn downwards obliquely and extend as far as the shoulders. Consequently they are of considerable length. And these Goats spring with ease from towering pinnacles — 'craggs' as pastoral and poetical folk like to call them — on to another height, for they are far better at leaping than all other kinds of goat. If, however, one should happen to fall owing to the spot which should receive it being beyond its reach, it has such a reserve of strength in its limbs that it remains uninjured on landing; At any rate not a thing does it break, even though it falls down a cleft rock, neither horn nor front of the skull. But these creatures are as strong and as resistant as the stone itself. Now it is on the actual ridges that most of them are caught, by means of nets, spears, and snares, and by the general skill of a huntsman, but especially by skill in hunting the Goat. They are also caught in the plains, and there they cannot run strongly enough to escape. So even a man who is slow of foot will take them. And it seems that their hide and horns are serviceable. Thus, in the severest winters their hide keeps out the cold for herdsmen: and woodcutters, while those famous horns of theirs are useful in summer time for drawing water and drinking from a flowing stream or some bubbling spring, and help to quench thirst, for they allow you to drink at one draught not a drop less than the contents of the largest cups, until you have cooled your panting heat and quenched, all the fire and flame: And so if the inside is, cleaned out by some skilled polisher of horns, either horn will easily contain as much as three measures.

14.17 Tortoises too are a product of Libya; they have a most cruel look, and they live in the mountains, and their shell is good for making lyres.

14.18 When a Mare gives birth, some say that a small piece of flesh is attached to the foal's forehead, others say to its loin, others again to its genitals, This piece the Mare bites off and destroys; and it is called 'Mare's-frenzy.' It is because Nature has pity and compassion on horses that

this occurs, for (they say) had this continued to be attached always to the foal, both horses and mares would be inflamed with a passion for uncontrolled mating. This may, if you like, be a gift bestowed by Poseidon or Athena, the god and the goddess of horses, upon these animals to insure that their race is perpetuated and does not perish through an insane indulgence. Now those who tend horses, are fully aware of this and if they chance to need the aforesaid piece of flesh with the design of kindling the fires of love in some person, they watch a pregnant Mare, and directly she bears the foal they seize it, cut off the piece of flesh, and deposit it in a Mare's hoof, for there alone will it be securely kept and stored away. As to the foal, they sacrifice it to the rising sun, for its dam refuses to suckle it any more now that it has lost its birth-token and no longer possesses the premise of her affection. For it is by eating that piece of flesh that the dam begins to love her offspring passionately. But any man who as a result of some plot tastes of that piece of flesh becomes possessed and consumed by an incontinent desire and cries aloud, and cannot be controlled from going after even the ugliest boys and grown women of repellent aspect. And he proclaims his affliction and tells those whom he meets how he is being driven mad. And his body pines and wastes away and his mind is agitated by erotic frenzy.

I have, heard also this story of the bronze mare at Olympia: horses fall madly in love with it and long to mount it, and at the sight of it neigh amorously. Hidden away in the charmed bronze, it contains the treacherous Mare's-frenzy, and through some secret contrivance of the artist the bronze works against living animals. For it could not possibly be so true to life that horses with their eyes open should be deceived and inflamed to that extent.

It may be that those who relate the story are speaking the truth, or it may be that they are not; I have only reported what I have heard.

14.19 In Libya there is said to be a lake of boiling water, and in this water they say that fishes exist and swim about, and that when food is thrown into the water they leap up to get it. But, I have also heard that if one casts these fish into cold wate, they die.

14.20 Those who are expert at fishing say that if one boils and dissolves in wine the stomach of the Sea-horse and gives it to someone to drink, the wine becomes a poison abnormal in comparison with others. For the man who has tasted it is first of all seized with a most violent retching; next he is racked with a dry cough but brings up nothing at all; yet his upper stomach is enlarged and swells, while hot streams mount to his head and phlegm descends from his nose, emitting a fishy odour; his eyes turn bloodshot and fiery and the lids become puffy. He is possessed, they say, by a longing to vomit, but brings up nothing whatever. If however Nature prevails, the man escapes the threat of death but sinks gradually into a state of forgetfulness and insanity. But if the wine penetrates into his lower stomach, it is all over with him, and the victim inevitably dies. Those who survive, having drifted into insanity, are seized with a strong desire for water; they yearn to see water and to listen to it falling. This at any rate quiets them and lulls them to sleep. And, they like to spend their time either by ever-flowing rivers or near the sea-shore or by the side of springs or lakes, and though they do not at all desire to drink, they love to swim and to dip their feet and to wash their hands.

But there are those who maintain that it is not the actual stomach of the Sea-horse which causes these sufferings, but that the creature feeds upon a certain kind of seaweed of extraordinary bitterness and that its essence is transferred to the Sea-horse. Notwithstanding, the Sea-horse has been found to be an efficient remedy thanks to the shrewdness of an aged fisherman who was versed in matters regarding the sea. There was an old fisherman of Crete and he had some young sons, also

fishermen. Now it so happened that the old man caught some Sea-horses along with other fish, and that the boys were bitten by a mad dog: when the first was bitten, the others who came to help him suffered the same fate. So they lay on the beach at Mithymna [Rhithymna ?] in Crete (this is said to be a village), while the spectators sympathised with their plight and gave orders for the dog to be killed and its liver to be given to the boys to eat as an antidote to the poison. Others urged that they should be taken to the temple of Roccaean Artemis and that the goddess should be implored to heal them. But the old man, without a sign of fear, without swerving from his purpose, allowed these advisers to make their recommendations, washed out the stomachs of the Sea-horses, some of which he roasted and gave to the boys to apply, while others he pounded into a mixture of vinegar and honey, and then smeared on the wounds made, by the bite, and so overcame the boys' madness by that longing for water which the Sea-horses engendered in them. And in this way he cured his sons, though it took time.

14.21 I have already said much regarding Dog-fish in the sea. But river Dog-fish [otter?] have the appearance of small dogs that live on land, and they even have hairy tails. And it is said that their blood, if poured into a mixture of water and vinegar, acts as an embrocation for swollen sinews. Their skin provides excellent shoes, and these too, they say, are good for the sinews.

14.22 The river Tecinus (this is the name of a river in Italy) breeds the fish called the Grayling. It attains to as much as a cubit in length, and in appearance is between the basse and the mullet. The odour of the fish when caught is something to astonish one, for it is not the least like the fishy odour of others, but you would say that you held in your hand some freshly plucked thyme; moreover it is sweet-scented and a man who did not notice the fish would fancy that the herb which is the bees' principal food (from which incidentally the fish *thymallus*, derives its name) was in your hand.

The easiest way to catch it is with a net; with a lure and hook you will not catch it, neither with hog's fat nor with a gnat nor with a clam nor with the entrails of any other fish nor with the muscle, of a spiral-shell. It is only to be caught with a mosquito, a troublesome insect, man's enemy by day and by night with its sting and its buzzing: that will catch the aforesaid Grayling, for this is the only bait that it delights in.

14.23 At the foot of the Alps, facing the north wind, and beneath the Great Bear, live the people called. . . , They are a nation of horsemen. It is in that region, you know, that the largest of the rivers of Europe, the Ister, rises from only a few springs and moves in a direction facing the first assaults of the sun. Later, many rivers rise with one accord as though they were escorting him — for he is the King of the rivers of that country — and flow perpetually, and those who live on their banks know the name of each one. But as soon as they discharge into the Ister, the name which they had at their birth ceases to be used, they surrender it in his favour, all are called after him, and together pour their waters into the Euxine. And there there are fish of different species, crow-fish, myllus, sturgeon, carp (these are black), and schall and wrasse (which are white), and besides these, perch and sword-fish. These last are suited to their name, witness the fact that the rest of their body is soft and harmless to the touch, that their teeth do not appear curved and sharp, that there are no spines springing erect from their back, as in the case of dolphins, or from their tail, but what surprises one to learn and to see is this: the jaw just below its nose, through which it breathes and through which the stream flows to the gills and falls out, is prolonged to a sharp point, is straight and increases gradually in length and in bulk; it grows also as the fish grows into a monster and resembles the beak of a trireme. And the Sword-fish makes straight for fishes, kills them, and then feeds on them,

and with this same sword beats off the attacks of the largest sea-monsters. No smith has forged this weapon which grows upon the fish, and Nature has made it sharp.

And so when these Sword-fish have, attained a considerable size they even attack ships. And there are some who boast that they have seen a Bithynian vessel drawn up on shore in order that the keel which was suffering from age might receive the necessary attention, and fixed to the keel they saw the head of a sword-fish. For the creature had planted the sword given it by Nature, in the vessel, and when it attempted to withdraw, the whole Of its body was rent from the neck owing to the force of the ship's onrush, while the sword remained fixed just as it entered originally. So then this fish is caught both in the sea and in the Ister, and it delights both in salt water and in fresh streams.

14.24 When the summer is at its hottest, Sharks and other fish which are bold by nature approach the sea-shore and make straight for cliffs and run in under headlands where the current is strong and swim into narrow, deep, straits. They forsake their haunts in the open seas and at this season neglect their feeding-ground there. Now a certain seaweed grows among deep reefs: it is about the size of a tamarisk and bears fruit resembling a poppy. At other seasons of the year the fruit is closed and is resistant and hard like a shell; it opens however after the summer solstice, like buds in rose-gardens. And the surrounding sheath protects the inside: encircling it like a barrier; it is a bright yellow colour but the part beneath this covering is dark blue and flabby like a bladder with air in it, and is quite translucent, and from it there oozes a violent poison. By night this seaweed sends out a fiery ray and sparkles: And when the Dog-star is rising the evil power of the poison is even stronger. For that reason all fishermen have given it the name of *Pancynium* in the belief that it is the rising of the star that generates the poison. Now the Sharks fall upon the flower which by night seems to be burning, rushing at this tamarisk of the sea as if it were treasure trove, and when the poison has drenched them, some being swallowed and some having penetrated through their gills, they die and at once float up to the surface.

Now those who are skilled at investigating such matters collect this poison which emanates from the aforesaid monsters, some of it from other parts of the creature's body and some from its mouth. This poison is second only to that of the land-peony, as it is called, which people have also named *Cynospastus*. The reason for this you will learn if I remember to tell it you.

14.25 The people of Mysia — not those who inhabit the Pergamum of Telephus, but you are to understand those who live by the Black Sea in the lower part and are neighbours of the Scythians whose inroads they check, and who are guardians of the aforesaid country on behalf of Rome. I am referring to those that live near Heraclea and the river Axius. It is there, you know, that the inhabitants tell the tale of Medea, daughter of Aeetes, whose impious hands dared to commit that outrage upon her brother Apsyrtus, for the Mysians harp on this evil report against the Colchian sorceress, besides the others that are current among the Greeks. Well, this is the way in which these people hunt fish. An Istrian whose trade is fishing drives a pair of oxen near the bank of the Ister, but not because he has the least wish to plough, for, as the saying goes, 'an ox and a dolphin have nothing in common,' so in the same way what friendship can there be between a fisherman's hands and a plough? If however he has a pair of horses he uses horses. The man carries the yoke on his shoulders and comes to a spot where he thinks it suitable to sit down and where he believes he is well placed for fishing. One end of his rope, which is stout and thoroughly capable of standing a strain, he attaches to the middle of the yoke. He provides ample fodder for the oxen or the horses, and they eat their fill. And to the other end of the rope he attaches a strong hook which has been well sharpened, and on this he spits the lungs' of a bull, and lets them down as food, and indeed its



favourite food, for the Sheat-fish in the Ister, after fastening above the point where the rope secures the hook enough lead to prevent it from being dragged away, So directly the fish notices the bulls' meat he rushes to seize it. Then, finding what he wants, all at once with jaws agape he recklessly tugs at the deadly meal which has come to him. Next, this glutton, drawn on by his enjoyment, is spitted on the aforesaid hook before he knows it, and in his eagerness to escape the disaster that has befallen him he agitates and shakes the rope with all his might. So when the hunter is aware of this he is filled with joy; he leaps from his seat, abandons his labours in the river and his watery pursuits, and like an actor in a play changing his mask, sets his pair of oxen or horses in motion, and there ensues a trial of strength between the monster and the beasts of burden. For the creature bred in the Ister exerts a downward pull with all the strength at his command, while the pair of beasts pulling in the opposite direction makes the rope taut. But it avails the fish nothing: at any rate he is defeated in the tug-of-war, gives up, and is hauled ashore. A student of Homer might say that mules were hauling tree-trunks, as Homer sings in the celebrated tale of the funeral of Patroclus.

14.26 There is also in the Ister a bay of immense depth and like the sea in its wide compass. Moreover that this bay attains a considerable depth is sufficiently proved by the following fact: merchant vessels which cross the sea put in to this bay and, when the bay is angered by the winds that blow and lash it into waves and drive it mad, are just as afraid of it as they are of the sea. And there are also islands in it, and even creeks along the shore into which one can run for safety. There are besides, promontories and capes running out, on which the waves in their fury dash and burst whenever the river at its very fullest is, as it were, forced into a narrow space as it presses on to the sea. This commonly occurs when the third autumnal season is past and the winter season is setting in and the river is running in full flood. And as it rises the north wind urges it forward and causes it to descend in fury. And the stream carries down the ice it contains as though for an easy voyage. But the north wind opposes it with its violent and icy blasts: it does not permit it to discharge into the sea what you might call its offspring, but causes it to overflow, resists it, and brings it to a halt. So the ice which is floating and checked sinks and solidifies to a great depth. In consequence the Ister's own water flows beneath, along what you might call hidden channels, while the newly acquired and alien surface resembles a plain, and at this season of the year the people thereabouts travel along it driving a pair or on horseback. Now the way in which that mischievous and crafty animal the fox tests and examines this river and the Strymon in Thrace to see if they are frozen, I have described earlier on. Well, the ice on the Ister freezes hard even round a merchant vessel on its way downstream and imprisons it: it is no use to spread the sails; the man at the prow looks no more ahead; the ship's captain cannot move the rudders to and fro; they are fixed fast, for the whole vessel is caught in the surrounding fetters and looks, I declare, not like any ship, for it is no longer beaten by the waves, but like some hill rising from a wide expanse of plain or for all the world like some lofty watch-tower. Thereupon the passengers and the sailors jump out and hurry down the river and fetch wagons and transfer the cargo on to what was lately the water. Then again when the winter season is over and the river begins to flow strongly they still carry their loads. But the ship remains stationary until the frost relaxes and the ice melts and is dissolved, and the merchant vessel, freed from its strange cable, is released.

At that season fishermen also take picks and hack through the ice wherever they feel inclined, and contrive a circular hole reaching down to the water. You would say that it was the mouth of a well or of a huge, very pot-bellied jar. Thereupon multitudes of fish wishing to escape from the ice which is pressing down upon them like a roof, and longing for the light, swim joyfully up to the opening that has been made, and come in crowds past numbering and jostle one another, and being in a confined hole are easily captured. And it is possible to catch carp and crow-fish in abundance and perch and

the swordfish, though the last-named is not yet fully grown and is still without the frontal spike; sturgeon too, young and tender, for the large ones of mature age may be the size of the biggest tunny. The Sturgeon is extremely fat along the: sides and the belly; you might say they were the dugs of a sow that was suckling its young. It has a rough skin and spear-makers actually polish their spear-shafts on it. Beneath the spinal marrow of this creature a supple, narrow membrane beginning at the middle of the head, runs down as far as the tail. Now if you let this dry in the sun you will obtain, should you wish it, a whip to drive a pair of horses with. For it differs hardly at all from a leather thong. When however the fish has grown to its full size one would not see it emerging from the ice and falling into the hole, but either it slips beneath some all-sheltering rock or buries itself in deep sand and is only too glad to keep warm. And at that time it needs no vegetation, no other fish to eat, but prefers to remain inactive while the frost lasts, and is happy to be idle and consumes its own fat, just as octopuses also when unable to catch any prey nibble their own tentacles and feed off themselves. But when winter is over and spring is beginning and the Ister is flowing freely, it hates to be inactive and, swimming up to the surface, takes its fill of the foam on the water, and there is foam in abundance as the stream roars and boils in violent tumult. Then is the time when it is easily captured as the fishermen lie in wait for it and let down hook and line into the foam. The whiteness of the foam conceals the hook and the bright sheen of the bronze is invisible to the fish; hence, as it opens its jaws and takes a heavy draught of the aforesaid food, it swallows the bait and meets its death from the very thing that before sustained it.

14.27 There is a plant of the name of *Cynospastus* (it is also called *Aglaophotis* (peony). I have remembered and wish to fulfil my obligations) which by daytime passes unnoticed among the rest and is hardly visible, but at night it becomes visible and shines out like a star, for it is of a fiery nature and like a flame. Therefore men plant some mark near the roots and then go away, for if they did not do this they would be unable by day to remember either the colour or even the appearance of the plant. But when the night is over they come and see the mark which they left and recognise it and are able to guess that this is the very plant that they need; for otherwise it is completely like the plants all round it, differing from them not one whit. But they themselves do not pull up this plant; if they did they would certainly regret it. Accordingly no one either digs round it or pulls it up, for (they say) the first man who in ignorance of its nature touched it, was destroyed by it shortly afterwards. And so they bring a strong dog that has not been fed for some days and is ravenously hungry and attach a strong cord to it, and round the stalk of the Peony at the bottom they fasten a noose securely from as far away as they can; then they put before the dog a large quantity of cooked meat, which exhales a savoury odour. And the dog, burning with hunger and tormented by the savour, lashes at the meat that has been placed before it and with its violent movement pulls up the plant, roots and all. But when the sun sees the roots the Dog immediately dies, and they bury it on the spot, and after performing some mysterious rites and paying honour to the dead body of the dog as having died on their behalf, they then make bold to touch the aforesaid plant and carry it home. It is useful, they say, for many purposes; for instance, it is said to cure the disease with which the moon is reputed to afflict men; also that affliction of the eyes in which moisture floods them and then congeals and robs them of their sight.

14.28 There is in the sea a shellfish with a spiral shell, small in size but of surpassing beauty, and it is born where the water is at its purest and upon rocks beneath the sea and on what are called sunken reefs. Its name is *Nerites*. Two stories are in circulation touching this creature, and both have reached me; moreover the telling of a short tale in the middle of a lengthy history is simply giving the hearer a rest and sweetening the narrative. Hesiod sings of how Doris the daughter of Oceanus bore fifty daughters to Nereus the sea-god, whom to this day we always hear of as truthful and

unlying. Homer also mentions them in his poems. But they do not state that one son was born after all that number of daughters, though he is celebrated in mariners' tales. And they say that he was named Nerites and was the most beautiful of men and gods; also that Aphrodite delighted to be with Nerites in the sea and loved him. And when the fated time arrived, at which, at the bidding of the Father of the gods, Aphrodite, also had to be enrolled among the Olympians, I have heard that she ascended and wished to bring her companion and play-fellow. But the story goes that he refused, preferring life with his sisters and parents to Olympus. And then he was permitted to grow wings: this, I imagine, was a gift from Aphrodite. But even this favour he counted as nothing. And so the daughter of Zeus was moved to anger and transformed his shape into this shell, and of her own accord chose in his place for her attendant and servant Eros, who also was young and beautiful, and to him she gave the wings of Nerites.

But the other account proclaims that Poseidon was the lover of Nerites, and that Nerites returned his love, and that this was the origin of the celebrated Anteros (mutual love). And so, as I am told, for the rest the favourite spent his time with his lover, and moreover when Poseidon drove his chariot over the waves, all other great fishes as well as dolphins and tritons too, sprang up from their deep haunts and gambolled and danced around the chariot, only to be left utterly and far behind by the speed of his horses; only the boy favourite was his escort close at hand, and before them the waves sank to rest and the sea parted out of reverence to Poseidon, for the god willed that his beautiful favourite should not only be highly esteemed for other reasons but should also be pre-eminent at swimming.

But the story relates that the Sun resented the boy's power of speed and transformed his body into the spiral shell as it now is: the cause of his anger I cannot tell, neither does the fable mention it. But if one may guess where there is nothing to go by, Poseidon and the Sun might be said to be rivals. And it may be that the Sun was vexed at the boy travelling about in the sea and wished that he should travel among the constellations instead of being counted among sea-monsters. Thus far the two fables; but may the gods be good to me, and for my part let me observe a religious silence regarding them. But if my fables have said any thing overbold, the fault must be laid to their charge.

14.29 At the spot where the Tanarus and the Eridanus meet (the latter has achieved renown and fame, whereas the former is hardly known at all) an altogether peculiar manner of fishing is in vogue; it has come to my knowledge through the poems of a man of Mytilene, an acquaintance of my own, and must not pass without a tribute in my narrative.

When the rivers have become ice-bound those who live in their neighbourhood plough and sow in the winter season, for it is their lot to possess a fertile land. Then at the beginning of spring while the aforesaid rivers are still immobile for the reason that I explained, the erstwhile farmers now fishermen select some spot like a bay and with well-sharpened hatchets cut round it so that a circle of water, like a pond, appears. They do not however cut close to the bank as yet but leave the ice as it froze originally. So then they throw a wide net round the space which they have laid open, and round the net a stoutish rope. This net is drawn in by men standing on the shore, fishermen and others, and there are many who though they know nothing of the art, watch the fish being caught: they feel a certain fascination in it. But as the men are drawn in and approach the bank, then the fishermen on the dry land cut the ice there also, for they have an interest in the capture and try to prevent the fish from escaping. When this has been done as described, the net, full of fish, pushes the block of ice that has been cut round and draws it along with it, while the fishermen who are standing on the block look as if they were being carried along on a floating island. Such is the peculiar

method of catching the fish there and quite unlike any other. And Homer will allow me to say that these men earn a double wage, one from the river and another from the land, since the same men are both mariners and farmers.

## Book 15

15.1 I have heard and can tell of a way of catching fish in Macedonia, and it is this. Between Beroea and Thessalonica there flows a river called the Astraeus. Now there are in it fishes of a speckled hue, but what the natives call them, it is better to enquire of the Macedonians. Now these fish feed upon the flies of the country which flit about the river and which are quite unlike flies elsewhere; they do not look like wasps, nor could one fairly describe this creature as comparable in shape with what are called *Anthedones* (bumble-bees), nor even with actual honey-bees, although they possess a distinctive feature of each of the aforesaid insects. Thus, they have the audacity of the fly; you might say they are the size of a bumble-bee, but their colour imitates that of a wasp, and they buzz like a honeybee. All the natives call them *Hippurus*. These flies settle on the stream and seek the food that they like; they cannot however escape the observation of the fishes that swim below. So when a fish observes a *Hippurus* on the surface it swims up noiselessly under water for fear of disturbing the surface and to avoid scaring its prey. Then when close at hand in the fly's shadow it opens its jaws and swallows the fly, just as a wolf snatches a sheep from the flock, or as an eagle seizes a goose from the farmyard. Having done this it plunges beneath the ripple. Now although fishermen know of these happenings, they do not in fact make any use of these flies as baits for fish, because if the human hand touches them it destroys the natural bloom; their wings wither and the fish refuse to eat them, and for that reason will not go near them, because by some mysterious instinct they detest flies that have been caught. And so with the skill of anglers the men circumvent the fish by the following artful contrivance. They wrap the hook in scarlet wool, and to the wool they attach two feathers that grow beneath a cock's wattles and are the colour of wax. The fishing-rod is six feet long, and so is the line. So they let down this lure, and the fish attracted and excited by the colour, comes to meet it, and fancying from the beauty of the sight that he is going to have a wonderful banquet, opens wide his mouth, is entangled with the hook, and gains a bitter feast, for he is caught.

15.2 Ram-fishes, whose name has a wide circulation, although information about them is not very definite except in so far as displayed in works of art, spend the winter near the strait between Corsica and Sardinia and actually appear above water. And round about them swim dolphins of very great size; Now the male Ram-fish has a white band running round its forehead (you might describe it as the tiara of a Lysimachus or an Antigonus or of some other king of Macedon), but the female has curls, just as cock's have wattles, attached below its neck. Male and female alike pounce upon dead bodies and feed on them, indeed they even seize living men, and with the wave caused by their swimming, since they are large and of immense bulk, they even overturn vessels, such a storm do they unaided raise against them. And they even snatch men standing on the shore close at hand. The inhabitants of Corsica tell how, when a ship was wrecked in a storm, a man who was a very strong swimmer managed to swim over a wide expanse of sea and to secure a hold on some headland in their country; he climbed out and stood there, all fear banished, for he was now free from all perils, with no anxiety for his life, his own master. Now a Ram-fish which was swimming by caught sight of him as he stood, and inflamed with hunger turned about, arched its back, and with its tail drove a

great mass of water forward, and then rose as the swelling wave lifted it, and in a moment was carried up on to the headland and like a hurricane or whirlwind seized the man. So much for the Ram-fish's prey ravished off Corsica.

Those who live on the shores of Ocean tell a fable of how the ancient kings of Atlantis, sprung from the seed of Poseidon, wore upon their head the bands from the male Ram-fish, as an emblem of their authority, while their wives, the queens, wore the curls of the females as a proof of theirs. Now this creature has exceedingly powerful nostrils and inhales a great quantity of breath, drawing to itself an immense amount of air; and it hunts seals in the following manner. Directly the seals realise that a Ram-fish is somewhere close at hand, bringing destruction upon them, they swim ashore with all possible speed and pass over the land and plunge into the shelter of rocky caverns. But the Ram-fish perceive that they have fled and give chase, and as they face the cave they know from the smell of flesh that their prey is within, and, as though by some all-powerful spell, with their nostrils they draw in the air that intervenes between themselves and the seal. But the seal avoids the attack of the monster's breath, as it might an arrow or a spear-point, and at first withdraws, but is finally dragged out of the cave by the overmastering pull and follows against its will, just as though it were bound fast with thongs or cords, and shrieking provides the Ram-fish with a meal.

Those who are skilled at exploring these matters assert that the hairs which grow from the nostrils of the Ram-fish serve many purposes.

15.3 In the gulf of Vibo there are shoals of Tunny past numbering, and some are, like hogs, solitary, and swim by themselves and are of very great size; others swim in couples or range together, as wolves do; others again swim in companies, just like herds of goats, ranging over wide feeding-grounds. But at the rising of the Dog-star and when the sun's rays are at their fiercest, they set out for the Euxine. And if the waves seem hot to them they swim interwoven with one another and by the contact of their bodies somehow contrive to get a certain amount of shade.

15.4 Demostratus, a man deeply versed in fishing lore and excellent at expounding it, says that there is a certain fish of great beauty and that it is called the 'Moon-fish'; it is small, dark blue in colour, and flat in shape. He says too that it has dorsal fins which it raises, but that they are soft and neither unyielding nor rough. These fins, whenever the fish dives, open out and form a half-circle and present to the eye the shape of a half-moon. This is what the fishermen of Cyprus say, but Demostratus adds that if this fish is caught when the moon is at the full, it too is at the full, and causes trees to expand if one brings it and attaches it to them. But when the moon is waning the fish pines and dies, and if applied to plants they too wither. And when wells are being dug, if, as the moon is waxing, you throw this fish into the water which you have found, it will flow continually and never fail; if however you do this when the moon is waning, the flow will cease. In the same way if you throw this same fish into a bubbling spring, you will henceforward either find it full of water or you will find the spot empty.

15.5 I know that I have somewhere earlier on in this discourse described how Tunny swim into and out of the Propontis. Just consider the cities along the Black Sea — Heraclea, Tium, and Amastris. Now the inhabitants of the whole of that country know exactly of the coming of the Tunny, and at that season of the year the fish arrive, and much gear has been got ready to deal with them, boats and nets and a high lookout-place. This lookout-place is fixed on some beach and stands where there is a wide, uninterrupted view. It is no trouble to me to explain, and you who listen should be pleased to hear, how it is constructed. Two high pine-trunks held apart by wide barks of timber, are set up; the

latter are interwoven in the structure at short intervals and are of great assistance to the watchman in mounting to the top. Each of the boats has six young men, strong rowers, on either side. The nets are of considerable length; they are not too light and so far from being kept floating by corks are actually weighted with lead, and these fish swim into them in shoals. And when the spring begins to shine and the breezes are blowing softly and the air is bright and as it were smiling and the waves are at rest and the sea smooth, the watcher, whose mysterious skill and naturally sharp sight enable him to see the fish, announces to the fishermen the quarter from which they are coming: if on the one hand the men ought to spread their nets near the shore he instructs them accordingly; but if closer in, like a general he gives the signal, or like a conductor, the keynote. And frequently he will tell the total number of fish and not be off the mark. And this is what happens. When the company of Tunnies makes for the open sea the man in the lookout who has an accurate knowledge of their ways shouts at the top of his voice telling the men to give chase in that direction and to row straight for the open sea. And the men after fastening to one of the pines supporting the lookout a very long rope attached to the nets, then proceed to row their boats in close order and in column, keeping near to one another, because, you see, the net is distributed between each boat. And the first boat drops its portion of the net and turns back; then the second does the same, then the third, and the fourth has to let go its portion. But the rowers in the fifth boat delay, for they must not let go yet. Then the others row in different directions and haul their part of the net, and then pause. Now the Tunny are sluggish and incapable of any action that involves daring, and they remain huddled together and quite still. So the rowers, as though it were a captured city, take captive — as a poet might say — the population of fishes. And so, my Grecian friends, the people of Eretria and Naxos know of these things by report, for they have learnt about this method of fishing all that Herodotus and others relate. What remains to be told of it you shall learn from others.

15.6 When Tunny have been caught by fishermen of the Euxine (and I might add off Sicily also, for what else had Sophron in mind when he wrote his delightful *Tunny-Fisher*? Anyhow there are Tunny fisheries in other places besides.) — when therefore they are safely enmeshed in the net, then is the time when everybody prays to Poseidon the Averter of Disaster. And as I ask myself the reason, I think it worth while to explain what induced them to attach the name 'Averter of Disaster' to the god. They pray to the brother of Zeus, the Lord of the Sea, that neither swordfish nor dolphin may come as fellow-traveller with the shoal of Tunny. At any rate your noble sword-fish has many a time cut through the net and allowed the whole company to break through and go free. The dolphin also is the net's enemy, for it is skilful at gnawing its way out.

15.7 During the springtime in India it rains liquid honey, and especially in the country of the Prasii; and it falls on the grass and on the leaves of reeds in the marshes, providing wonderful pasturage for cattle and sheep. And the animals feast off the food with the greatest delight, for the shepherds make a point of leading them to spots where this honeyed dew falls more plentifully and settles. And they in return feast their herdsmen, for the milk which the latter draw is of the utmost sweetness and they have no need to mix honey with it as the Greeks do.

15.8 The Pearl-oyster of India (I have spoken earlier on of the one in the Red Sea) is obtained in the following manner. There is a city of which one Soras by name was ruler, a man of royal lineage, at the time when Eucratides was ruler of Bactria. And the name of the city is Perimula, and it is inhabited by *Ichthyophagi* (fish-eaters). These men, it is said, set out from there with their nets and draw a ring of wide embrace round a great circle of the shore. The aforesaid stone is produced from a shell resembling a large trumpet-shell, and the Pearl-oysters swim in shoals and have leaders, just as bees, in their hives have 'kings,' as they are called. And I have heard that the 'leader' too is

conspicuous for his colour and his size. Now divers beneath the waters make it their special aim to capture him, for once he is caught they catch the entire shoal, since it is, so to say, left destitute and without a leader; for it remains motionless and ceases to advance, like a flock of sheep that by some mischance has lost its shepherd. But the leader makes good his escape and slips out with the utmost adroitness and takes the lead and rescues those that obey him. Those however that are caught the Ichthyophagi are said to pickle in jars. And when the flesh turns clammy and falls away, the precious stone is left behind. The best ones are those from India and from the Red Sea; but they are also found in the western ocean where the island of Britain is, though this kind has a more golden appearance, and a duller, duskier sheen. Juba asserts that they occur also in the strait leading to the Bosphorus and are inferior to the British kind, and are not for a moment to be compared with those from India and the Red Sea. But the land-pearl of India is said not to have an independent origin but to be generated not from the ice formed by frost but from excavated rock-crystal.

15.9 I am well aware that earlier on in my discourse I have spoken of cranes, the birds, but I claim to have heard of a sea-crane, a fish that lives in the sea of Corinth. Now this stretch of sea, where the Crane-fish has been tracked down, lies near the sea which approaches Attica on that side of the Isthmus that faces Athens. The fish reaches a length of perhaps fifteen feet reckoned accurately, but it is not (so I learn) as bulky as the largest eel. It has the head and mouth of the bird, and its scales you might say were the feathers of a crane. But it does not swim in the sinuous fashion of those fishes which are slim and long like eels. It is an exceedingly powerful jumper; at any rate it springs forward like an arrow shot from a bowstring . . . Now the accounts from Epidaurus state that this creature is not the offspring of any fish, but that cranes fleeing from the frosts of Thrace and of the west generally, encounter the wind, and that the female birds are stimulated to mate, while the male birds are inflamed with desire and agitated with a passion to couple, which makes them want to mount the females. They however will not permit it, for they cannot bear the burden of coupling in mid air, and so the males frustrated in their desire ejaculate semen. If they happen to be flying, over land, the semen is spent to no purpose but is lost and wasted. If however they are flying over the ocean, then the sea takes up and preserves the embryo as though it were a treasure, and generates this creature, not destroying it as though it had entered some unfruitful sterile womb. Here then of the two versions is the Epidaurian one fully set out. But the other version, whose origin I cannot tell, takes a different direction and does not agree with the former, but I shall mention it as well so that I may not appear to be ignorant of it. Demostratus, whom I also mentioned earlier on, says, 'I saw the fish and was filled with astonishment, and I was anxious to pickle it so that others might be able to see it. And so when the cooks got to work and opened it up, with my own eyes I inspected its internal organs and observed spines on both sides, which met and turned their points towards one another; they were,' he says, 'triangular like three-sided law-tablets, and imbedded in them was a liver of considerable length, and below that was a gall-bladder, with a long tube as in skin-bags. You would have said on seeing it that it was a damp bean-pod. So both gall-bladder and liver were extracted,' and the latter swelled up till it equalled the liver of the largest fish, whereas the gall-bladder, which happened somehow to have been placed on a stone, caused the stone to melt away and disappeared from sight.'

Here I conclude the two accounts.

15.10 It is not irrelevant to our present study to describe the altogether singular manner in which Pelamyds are caught. Ten young men in the prime of strength embark in a boat, light and therefore capable of great speed, arranging themselves in equal numbers on either side; and after satisfying themselves with a good meal they each lay hold of an oar and roam this way and that. And one youth

sits in the stern and lets down horse-hair lines on either side of the vessel. To these other lines are fastened, and to all of them hooks are, attached, and each hook carries a bait wrapped round with wool of Laconian purple, and further, to each hook is attached the feather of a sea-mew so as to be gently fluttered by the impact of the water. Now the Pelamyds in their eagerness for these objects come swimming up, and when the 'foretaster' has applied its mouth to them the rest approach and at the same moment the hooks are agitated as they pierce the fish. Meanwhile the men have stopped rowing and laid aside their oars and standing up draw up the lines with their plentiful catch, indeed even laden with fish. And when they tumble into the boat the evidence of a successful day's sport, is manifest in the great number captured.

15.11 I have heard that the land-Marten was once a human being. It has also reached my hearing that 'Marten' was its name then; that it was a dealer in spells and a sorcerer; that it was extremely, incontinent, and that it was afflicted with abnormal sexual desires. Nor has it escaped my notice that the anger of the goddess Hecate transformed it into this evil creature. May the goddess be gracious to me: fables and their telling I leave to others. But it is clearly a most malicious animal. Martens set upon human corpses, leap upon them if they are unprotected, pluck out their eyes and swallow them. They say too that if the testicles of a Marten are hung on a woman either by treachery or with her consent, they prevent her from becoming a mother and make her refrain from the sexual act; If the inwards of a Marten are dressed in a certain way, which I leave to those skilled in these matters, and dropped with evil intent into wine, they break up (so they say) a friendship, and sunder relations hitherto harmonious. In reward for these activities let us leave spell-binders and sorcerers to our friend Ares to punish and judge.

There is also a fish called Marten (*gale*): it is small and has nothing in common with those known as dog-fish (*galeus*), for the latter are cartilaginous, live in the sea, attain to a considerable length, and resemble a dog. But the Marten-fish one might identify with the Hepatus, as it is called. This is a small fish and blinks its eyes; the pupils are a dark blue colour. Its barbel is larger than that of the Hepatus; on the other hand it yields to the Chromis in this respect. I am told that the Marten lives among rocks, feeds on sea-weed, and that it too like the land Marten eats the: eyes of all bodies that it finds dead. Fishermen who practise sorcery after the manner of those that, dwell on the continent of Asia, being evilly disposed and skilled in mischief, use it for the same purpose as men use the land Marten. And since this species of fish is carnivorous, the men who spend their lives fishing and who explore the deepest recesses black their feet and the palms of their hands in an attempt to nullify the light that radiates from them, for men's limbs appear extremely light in water and so attract these fish.

15.12 Clams of the sea are of different kinds, for some of them are rough, others perfectly smooth; some you can crush by the mere pressure of the fingers, others you will hardly smash with a stone; some are of a deep black colour, others, you might compare with silver, others again are clothed in a blend-of the aforesaid colours. Their species differ and their habitats are very various, for some lie scattered in the sands of the sea-shore or rest at times in the mud, others lie low beneath the sea-moss, while others lay hold of reefs and cling to them with night and main. In the Istrian Sea, as it is called, these Clams in summer time at the beginning of the harvesting season swim along together like a herd of cattle, floating lightly to the surface, although up to this time they have been too heavy and weighty to float upwards, but now they are no longer so. And they avoid the South wind and flee before the North, and cannot endure even the East wind, but their delight is in a waveless sea and when the pleasant and gentle breezes of the West wind blow. And so beneath their influence they quit their burrows, with their shells still closed and fast shut, and mount upwards from their recesses



and, when the sea is waveless, swim around. And then they open their coverings and peep forth, like brides looking down from their private chambers or like rosebuds that, formed a little, have peeped out of their flower-cups towards the sun's heat. And so little by little they gather courage and are glad to rest quietly while waiting for the friendly breeze; and one of their coverings the Clams spread beneath them, the other they raise, and with the latter for sail and the former for skiff they float along. And in this way they move forward when the sea is calm and the weather fine; To see them from a distance you would say that it was a fleet of ships. If however they perceive some vessel approaching, or some savage creature advancing or some monstrous fish swimming by, with one clash of their shells they fold up, sink in a mass, and are gone.

15.13 The *Haemorrhous* or 'Blood-letter' is a species of snake which lives and has its haunts chiefly among rocky hollows. Its body is one foot long, and its width tapers downwards from its broad head to its tail. At one time it has a fiery hue, at another pitch-black, and on its head there bristle what look like horns. It crawls softly as it scrapes the scales of its belly along the ground, and its course is crooked. And so it makes a gentle rustling, which shows how sluggish and how feeble it is. But when it bites it makes a puncture which immediately appears dark blue, and the victim suffers agonising pains in his stomach, while the belly discharges copious fluid. On the first night after, blood streams from the nose and throat and even from the ears together, with a bile-like poison, and the bladder emits blood-stained water. Also if there are any old scars on the body they break open. But if a female Blood-letter darts poison as it strikes, the poison mounts to the gums, blood streams copiously from the finger-nails, and the teeth are forced out from the gums. This, they say, was the savage creature that Canobus, the helmsman of Menelaus, encountered in Egypt during the reign of Thonis; and when Helen realised how strong this venomous beast was, she broke its spine and extracted the poison. But for what purpose she was eager to obtain this precious stuff I am unable to say.

15.14 The people of India bring to their king tigers a that they have trained, tame panthers, four-horned antelopes, two kinds of oxen, the one swift of foot, the other exceedingly wild. From these oxen they contrive fly-whisks, and whereas the rest of their body is entirely black, their tails are dazzlingly white. They bring also pale-yellow doves which are said never to become domesticated, those birds too which they are accustomed to call *Cercordnoi* (mynahs); and hounds of good pedigree (I have spoken of these above); and apes, some white, some the deepest black: the reddish ones, which are too fond of women, they do not introduce into their towns, but if they can contrive somehow to spring upon them, they put them to death, because they detest them as adulterers.

15.15 In India the Great King on one day in every year arranges contests not only for various creatures, as I have said elsewhere, but among them between dumb animals also, or at any rate for those which are born with horns. And these butt each other and struggle with an instinct truly astonishing until one is victorious, as in fact athletes do, using all their strength to win the highest prizes or to achieve glorious renown and a noble fame. But these dumb combatants are wild bulls, tame rams, and what are called *mesoi* and one-horned asses and *hyainai*. They say that this animal is smaller than a gazelle but far more spirited than a stag and that it vents its fury with its horns. And last of all there come forward elephants to the fight: they advance and wound one another to the death with their tusks, and frequently one comes off victor and kills its adversary; frequently also both die together.

15.16 Theophrastus denies that the young of a Viper eat through their mother's belly, as though they were breaking open a door (if I may be allowed the jest) or forcing an exit that had been blocked;

but as the female is subjected to pressure and as its belly is (to use the language of Homer) 'straitened,' it is unable to hold out and so bursts. And his statement convinces me, for, you see, Pipefish too having no womb and being slim, go through the same process with their young, as I have explained somewhere earlier on. But I trust that Herodotus will not be angry with me if I reckon as fables all that he says regarding the birth of Vipers.

15.17 It seems that there is a certain natural association and kinship of a mysterious kind between the Lion and the Dolphin. It is not merely that one is king of land-animals and the other of fishes of the sea, but that when they advance to old age and begin to waste away, the Lion takes a land-monkey by way of medicine while the Dolphin searches for its equivalent in the sea: I have stated somewhere that the sea also contains a 'monkey,' and this is beneficial to the Dolphin, just as the land-monkey is to the Lion.

15.18 Among the creatures which I have not described and which are past numbering, is the *Sepedon*, an evil reptile. Nicander says that it is the same colour as the Blood-letter and is akin to it in appearance. This also he says: it seems to move more quickly, but conveys the impression of being smaller, for its path is crooked and tortuous, and it is chiefly for this reason that it deceives the spectator as to its real size. Now the wound which it inflicts is terrible: at any rate it spreads and festers and proves that the aforesaid creature is true to its name. At any rate the poison forces its way over the entire body with irresistible speed, and what is more, the hair turns clammy and perishes; the eyebrows and eyelashes fall away; darkness comes over the eyes and they are covered with white spots.

15.19 The land-Tortoise is a most lustful creature, at least the male is; the female however mates unwillingly. And Demostratus, a member, I may add, of the Roman Senate — not that this makes him a sufficient voucher, though in my opinion he attained the summit of knowledge in matters of fishing and was an admirable expounder of his knowledge; nor should I be surprised if he had made a study of some weightier subject and had dealt with the science of the soul. This Demostratus admits that he does not know precisely whether there is any other reason for the female declining to copulate, but he claims to vouch for the following fact. The female couples only when looking towards the male, and when he has satisfied his desire he goes away, while the female is quite unable to turn over again owing to the bulk of her shell and because she has been pressed into the ground. And so she is abandoned by her mate to provide a meal for other animals and especially for eagles. This then, according to Demostratus, is what the females dread, and since their desires are moderate and they prefer life to pleasurable indulgence, the males are unable to coax them to the act. And so by some mysterious instinct the males cast an amorous spell 'that brings forgetfulness of all' fear. It seems that the spells of a Tortoise in loving mood are by no means songs, like the trifles which Theocritus, the composer of sportive pastoral poems, wrote, but a mysterious herb of which Demostratus admits that neither he nor anyone else knows the name. Apparently the males adorn themselves with this herb, and some mysterious. . . . At any rate if they hold this herb in their mouth there ensues the exact opposite to what I have described: the male becomes coy, but the female hitherto reluctant is now full of ardour and pursues him in a frenzied desire to mate; fear is banished and the females are not in the least afraid for their own safety.

15.20 There is a region near to Thessalonica in Macedon which goes by the name of Nibas. Now the Cocks there lack their natural faculty of crowing and are absolutely silent. There is current a proverbial saying applied to things that are impossible, it is to this effect: 'You shall have such-and-such when Nibas crows.'

15.21 When Alexander threw some parts of India into a commotion and took possession of others he encountered among many other animals a Serpent which lived in a cavern and was regarded as sacred by the Indians who paid it great and superstitious reverence. Accordingly Indians went to all lengths imploring Alexander to permit nobody to attack the Serpent; and he assented to their wish. Now as the army passed by the cavern and caused a noise, the Serpent was aware of it. (It has, you know, the sharpest hearing and the keenest sight of all animals.) And it hissed and snorted so violently that all were terrified and confounded. It was reported to measure 70 cubits although it was not visible in all its length, it only put its head out. At any rate its eyes are said to have been the size of a large, round Macedonian shield.

15.22 Crows make it their business to worry Eagles, but they despise the Crows and leave them to fly at a lower level, while they themselves cleave the upper air on the swiftest of wings, not of course because they are afraid (how could anyone knowing well what the might of Eagles is say such a thing!), it is rather from what I may call their own magnanimity that they allow those birds to go their miserable way down below.

15.23 They say that the Pilot-fish is sacred not only to Poseidon but is also beloved of the gods of Samothrace. At any rate a certain fisherman in the olden days was punished by this fish. The name of the fisherman was, according to the story, Epopeus, and he came from the island of Icarus and had a son. Now on one occasion after they had failed to find any fish Epopeus drew up his net with a catch consisting entirely of Pilot-fish, off which he and his son made a meal. But not long after, avenging justice overtook him, for a sea-monster attacked his boat and swallowed Epopeus before the very eyes of his son.

And they also say that Dolphins are the enemies of the Pilot-fish, and they again do not escape unharmed when they eat one, for they immediately begin to writhe and go quite mad, and being incapable of remaining still are carried on to beaches, and when once they are cast ashore by the wave they furnish a meal to 'sea-crows' and sea-mews. And Apollonius of Rhodes or of Naucratis says that the Pilot-fish was once actually a human being and a ferryman. And Apollo fell in love with a maiden and attempted to lie with her, but she escaped and came to Miletus and implored Pompilus, a seaman, to conduct her across the strait. He agreed to do so, but Apollo appeared and seized the maiden, turned the ship into stone, and transformed Pompilus into this fish.

15.24 The Indians devote much attention to fast-running Oxen. And the King himself and many of the nobles make the speed of their oxen the subject of contest, and lay wagers in immense sums of gold and silver, and think no shame to compete with one another respecting these animals, indeed they couple them together and gamble on the race for, victory. Now the horses run yoked together, while the Oxen are harnessed alongside and one of them almost grazes the turning-post; they have to run 30 stades. The Oxen run as fast as the Horses and you could not tell which is the faster of the two, the ox or the horse. If, as sometimes happens, the King makes a wager with someone over his own Oxen, so full of emulous zeal does he become that he himself follows in a chariot and urges on the driver. And the latter makes the horses quite bloody with his goad, but withholds his hand from the Oxen, for they run without any goading. And feeling runs so high over this ox-racing that not only the rich and the owners but the spectators also contend for large stakes, just as in Homer Idomeneus of Crete and Ajax of Locris are represented contending.

There are also in India other Oxen the size of the largest he-goats. These also are yoked together and run extremely fast, at any rate they are no less spirited than the horses of the Getae.

15.25 It is reported that Horses which drink from the river Cossinitus (it is in Thrace) become terribly savage. This river empties itself into the territory of Abdera and is swallowed up in the Lake of the Bistones. Here, you know, was once the palace of Diomedes the Thracian who owned those famous wild mares, one of the 'Labours' of Heracles. And they say that the same fate befalls horses that drink from the spring at Potniae. The place called Potniae, where the spring is, lies not far from Thebes. They say that the inhabitants of Oraea and Gedrosia give their Horses fish for fodder, and I am told that the Celts feed both their cattle and their horses on fish. In their country, it is said, the Horses actually flee from the scent of human beings and hasten to the more southerly parts of Europe, especially when the South Wind blows. And there are those who bear witness to the fact that the inhabitants of Macedonia and of Lydia also feed their horses on fish, and who assert that the sheep of Lydia and of Macedonia are fattened on the same diet. In Moesia while mares are in process of being covered some people play the pipe, accompanying the marriage of Horses with nuptial music, as it were; and the mares are so enchanted by the melody that they very soon become pregnant and, what is more, produce beautiful foals. This too I have heard concerning Horses. They say that when horses are older and advanced in years the offspring which they beget is feeble, having besides other defects poor legs. The age and life of horses men reckon as so many years: in the case of Stallions, five and thirty. But Aristotle the son of Nicomachus states that a horse lived for five and seventy-years.

15.26 In the second stage of a journey from Susa in Persia to Media there are said to be Scorpions in multitudes, so that when the Persian King is going to pass that way he issues orders three days in advance that everybody is to catch them, and bestows presents on the man who has caught the greatest number. For if this were not done, the region would be impassable, for 'beneath every stone' and every clod 'there lurks a scorpion.' And they say that the inhabitants of Rhoeteum were driven out by centipedes, so great was the multitude that invaded them. They say too that in Cyrene there are species of mice which differ not only in colour but in form: some for instance have flat faces like martens, others again look like hedgehogs (*echinoi*), and these the natives call 'prickly mice' (*echinees*). And I have heard that in Egypt there are mice with only two legs, and that they grow to a great size, but their front legs they use as hands, for they are shorter than their hind legs. And they walk erect on their two legs, but when pursued they jump. This is what Theophrastus says.

15.27 There is a story that the birds known as Francolins when transported from Lydia to Egypt and let loose in the woods, at first uttered the note of quail. Later on, owing to the river feeling confined by its hollow bed, a famine broke out and many of the inhabitants perished, whereupon these same birds never ceased to utter with a sound far clearer and more articulate than any child words meaning 'Three curses on the accursed.' And the same story tells how if they are captured and snared they not only refuse to be tamed but no longer even utter the notes which they did before: their servitude and confinement decree silence against them. If however they are let go and can unfold their wings at liberty and return to their own haunts, they again become vocal and recover both their voice and their freedom of speech together.

15.28 They say that men catch the Little Horned Owl (mentioned in the *Odyssey* by Homer who says that it nests in great numbers round about the cavern of Calypso) by dancing. And dancers assert that a certain kind of dance is called after this bird, and if we are to believe them this dance has been called 'the Little Horned Owl.' And that anyone should caricature and imitate them in a playful way affords these birds the greatest pleasure. This is the origin of the word *skoptein* which we use, meaning 'to mock.' It is said that the Little Horned Owl is smaller than the Little Owl and that its colour resembles lead of the deepest hue, but its wings are said to have whitish speckles. And it

displays two feathers rising from the brows in either temple. Callimachus maintains that, there are two kinds of Little Horned Owl. One kind is vocal, the other doomed to silence; the latter is called *skops*, the former *aeiskops*. But Aristotle asserts that in Homer the word does not begin with a *sigma* (*skops*), but that the birds are called simply *kopes*. So those who prefix a *sigma* mistake the true spelling of the word and are mistaken as to Homer's judgment and knowledge of the bird. At all other seasons of the year the Little Horned Owl is not edible, but only when caught on one or two days in the late autumn, and then it is edible. These *Skopes* differ from the *Aeiskopes* in bulk, and bear some resemblance to a turtle-dove or ring-dove.

15.29 As to the race of Pygmies I have heard that they are governed in a manner peculiar to themselves, and that in fact owing to the failure of the male line a certain woman became queen and ruled over the Pygmies; her name was Gerana, and the Pygmies worshipped her as a god, paying her honours too august for a human being. The result was, they say, that she became so puffed up in her mind that she held the goddesses of no account. It was specially Hera, Athena, Artemis, and Aphrodite that, she said, came nowhere near her in beauty. But she was not destined to escape the evil consequences of her diseased imagination. For in consequence of the anger of Hera she changed her original form into that of a most hideous bird and became the Crane of today and wages war on the Pygmies because with their excessive honours they drove her to madness and to her destruction.

## Book 16

16.1 When a fisherman after Purple Shellfish catches one, not for human consumption but for dyeing wool, if the colour from it is to remain fast, indelible, and capable of producing the genuine tint unadulterated, then he smashes it, shell and all, with one blow of a stone. But if the blow is too light and the creature is left still alive, a second blow with the stone renders it useless for dyeing purposes. For the pain causes the fish to spend the dye which is absorbed into the mass of flesh or escapes in some other way. And this, they say, was known to Homer who says of those who die all at once that they are overtaken by the death of the Purple Shellfish in his poem he sings in the well-known passage how

'Empurpled death and violent fate laid hold of him'.

16.2 I learn that in India there are Parrots, and have also mentioned them earlier on, but this seems a most fitting place to relate what I did not relate on the former occasion. I am told that there are three kinds, and all learn like children; and become talkative in the same way and speak like human beings. In the forests however they utter the notes of birds, and do not produce intelligible and distinct speech, but are unlearned and cannot talk as yet, There are also Peacocks in India, larger than anywhere else, and Doves with green plumage; anyone seeing them for the first time and not possessing a knowledge of birds would say that they, were parrots not doves. But they have beaks and legs the same colour as those of partridges in Greece. And the Cocks there are of immense size, and their combs are not scarlet like those of our country, but of variegated hue like flower-garlands. And their tail-feathers are not arched or curved in a circle but flat, and they trail them, just as peacocks do when not raising them aloft. And the wings of Indian Cocks are golden with the dark gleam of an emerald.

16.3 There is also in India another bird, the size of a starling, and it is of varied colouring, and if taught to utter human speech is more talkative and by nature more intelligent than the parrot. Yet it does not willingly endure to be kept by man, but in its yearning for liberty and its desire for its natural freedom it welcomes starvation in preference to captivity with its luxuries. And the Macedonians who settled in India in the cities founded by Alexander, the son of Philip, in Bucephala and the surrounding country, in Cyropolis and the rest, call the bird *Cercion* (mynah). The name has its origin in the fact that it too wags its rump (*cercos*) as the wagtail does.

16.4 I have heard that there is also in India a bird called the 'Adjutant.' It is three times the size of a bustard, and has a mouth of astonishing size and long legs. It also has an enormous crop resembling a wallet and an extremely harsh cry. While the rest of its plumage is of an ashen colour, the wing-tips are pale.

16.5 I have heard also that the Indian Hoopoe is twice as big as the bird of our country and more beautiful in appearance. And as Homer says that the bit and trappings of a horse are laid up to be a Greek king's glory, so the Hoopoe is the joy of the Indian King: he carries it on his hand and delights in it, gazing continually in wonder at its splendour and its natural beauty.

Now the Brahmins also relate a legend regarding this bird, and the legend they relate is as follows. A son was born to an Indian king and he had brothers who, when they were grown to manhood, became extremely lawless and violent. And they looked down upon their brother, as being the youngest, jeered at their father and mother, and showed no respect for their old age. Accordingly the parents refused to live with them, and departed into exile, the aged couple, with their young son. There ensued a laborious journey for them; the parents' strength failed, and they died. The son however did not neglect them but split his head with a sword and buried them in himself. The Brahmins assert that the all-seeing Sun was so filled with admiration for this surpassing act of piety that he transformed the boy into a bird most beautiful to behold and endowed with length of days. And from his crown there sprang up a crest, as it were in commemoration of the events of his exile. The Athenians too tell some such wondrous tale in a myth regarding the Lark, which Aristophanes, the writer of comedies, appears to me to have followed in his *Birds* when he says

'No, for you were unlearned and no busybody and had not thumbed your Aesop, who used to say that the Lark was the first of all birds to be born, before the earth, and that then its father fell sick and died. But there was no earth, and the corpse was laid out for five days, and the Lark in straits and at its wits' end buried its father in its own head.'

So it seems that this fable from India, about a different bird indeed, yet spread to the Greeks as well. For the Brahmins maintain that it is long ages since the Indian Hoopoe, while still a human being and a child in years, did this to its parents.

16.6 In India there is an animal somewhat like the land-crocodile in appearance. It is the size of a Melitean lapdog. The scales that cover it are so rough and of such close texture, that when flayed they perform the functions of a file. They will even cut through bronze and eat their way through iron. They call the creature *Phattage* (pangolin).

16.7 The Sand-partridge occurs in the neighbourhood of Antioch in Pisidia and feeds on stones. It is smaller than the partridge and black in colour, but its beak is red. It is not to be domesticated like the partridge, nor does it grow tame, but continues wild all the time. It is not large, but is pleasanter to eat than the other, and its flesh seems somewhat firmer.

16.8 The Indian Ocean produces Sea-snakes with broad tails; the lakes also produce Water-snakes of immense size. But apparently these snakes in the Ocean bite with teeth that are saw-like rather than poisonous.

16.9 In India there are herds of wild horses and wild asses. Now they say that when the asses mount the mares, the latter remain passive and take pleasure in the act and produce Mules of a red colour and extremely swift of foot, but that these Mules are impatient of the yoke and generally skittish. The people are said to catch them; with foot-traps; and then, to take them to the King of the Prasii. If they are caught as two-year-olds they do not refuse to be broken in, but when older they are just as savage as fanged and carnivorous beasts.

16.10 They say that among the Prasii in India there is a race of Monkeys with human intelligence; in appearance they are as large as Hyrcanian hounds, and they are seen to possess a natural forelock; anyone who did not know the facts would say that these forelocks were artificial. The beard that grows beneath their chin is like that of a satyr, while the tail is as long as a lion's. The whole of their body is white except for the head and the tip of the tail, which are red. They are sober and naturally tame. They live in the forests and feed on wild produce. They visit the suburbs of Latage (this is a city in India) in great numbers and feed in the boiled rice which the king has served out to them, and this meal is prepared and laid out for them every day. And when they have eaten their fill, it is said that they withdraw again to their haunts in the forest in an orderly fashion without damaging anything that they come across.

16.11 In India there is a herbivorous animal and it is twice the size of a horse. It has a very bushy tail, pitch-black in colour; the hairs of it are finer than those of man, and Indian women set great store by obtaining them, and in fact they braid them in and adorn themselves most beautifully, plaiting them in with their own hair. Each hair attains a length of two cubits, and there spring perhaps as many as thirty from one root, like a tassel. Now this is of all animals the most timid, for if it is seen by somebody and realises that it is being looked at, it flees as fast as it can, the pace of its legs only exceeded by its eagerness to escape. It is hunted by horsemen with swift-footed hounds. But if it realises that it is going to be caught, it hides its tail in some thicket, faces about, and stands waiting for its pursuers and plucks up its courage, fancying that, since its tail is not visible, it will no longer seem worth pursuing. For it knows that its beauty resides in its tail. And yet on this point its fancies are idle, for a man shoots it with a poisoned arrow and having killed it will cut off its tail, the reward of the chase. And after flaying the body (for the hide also is serviceable) he leaves the dead carcase, because the Indians have no use for the flesh of these animals.

16.12 It seems that in the Indian Ocean there are sea-monsters five times the size of the largest, elephant. At any rate a single rib of a Sea-monster measures as much as twenty cubits; it has a jaw of fifteen cubits; the fin beside each of the gills is seven cubits in width. The Trumpet-shells and Purple-shellfish of the Indian Ocean (are large enough) to contain easily six pints; further, the shells of Sea-urchins have the same capacity. As for Fishes, they are gigantic, especially the Basse, the Pelamyd, and the Gilthead. And I have heard that at the season when the rivers descend in violence owing to floods and spill themselves upon the land, the Fish also are emptied over the fields and are borne hither and thither in shallow water. But when the rains which have over-filled the rivers cease, and the streams withdraw again and return to their natural courses, then Fishes of as much as eight cubits long remain in low-lying, marshy, level spots, where what is known as 'fallow land' commonly has depressions. And the cultivators catch the Fish which can only swim feebly, since

they are not moving in deep water but on the surface, glad to snatch a bare existence from the shallow water.

16.13 Indian fish have the following peculiarities: The Skate there is as large as an Argolic shield; the Prawns of India are even larger than crayfish. Now these Prawns ascend the river Ganges from the sea and have claws of immense size and rough to the touch, whereas I learn that those that quit the Red Sea for the Indus have smooth spines, and the feelers attached to them are long and curly, but they have no claws.

16.14 The river-Turtle of India has a shell as large as a full-sized skiff. At any rate each one has a capacity of ten *medimni* of pulse. There are also land-Tortoises, and these may be the size of the biggest clods of earth which are turned up in deep ploughing, provided the soil is yielding and the slough goes deep and cuts a furrow without difficulty and brings up the clods. And they say that these Tortoises shed their covering. Now the ploughmen and all who work in the fields dig them out with mattocks and extract them as we extract caterpillars from plants which are worm-eaten. The flesh of Tortoises is sweet and they are fat and by no means bitter like the Turtles.

16.15 In our country also there are intelligent animals, but they are few and not so numerous as in India. In that land, for example, are the Elephant, the Parrot, the Sphinx-ape, and the Satyrs,<sup>?</sup> as they are called. The Indian Ant too, it seems, is a clever creature. True, the Ants of our country excavate their holes and burrow below ground and construct hidden lairs, as it were, by digging in the earth, and wear themselves out with their mysterious and secret mining operations, so to speak. But the Ants of India construct little houses of material brought together, and these are not in low-lying, level country, which is easily flooded, but high up on rising ground. And there with indescribable skill they bore passages and what you might call Egyptian galleries or Cretan labyrinths and make a place for themselves, not straight ahead or easy to penetrate but out of the way past a maze of tunnels; and on the top they leave a single hole through which they themselves enter and bring into their storehouses all the seeds which they select. You see, they construct their caves high up in order to escape from inundations and floods from rivers, the result of this clever move is that they are living as it were in watch-towers or on islands at a time when all the land around their hillocks becomes a lake. Now these mounds, although merely heaped up, are so far from being dissolved and eaten away by an inundation that they are actually strengthened primarily by the morning dew, for they are, so to say, clothed beneath with a fine but strong coating of frost resulting from the dew; then at the base they are bound round with a bark-like coating of weeds from the river mud.

Juba long ago wrote about the Ants of India; but this is all I have to say at present.

16.16 In the country of the Ariani of India there is a Chasm of Pluto, and at the bottom there are certain mysterious galleries, hidden paths, and passages unseen of man, though they are in fact deep and extend a very long way. But how they came to be and how they were dug, neither the Indians can say nor have I been at the pains to discover. Now the Indians bring to the spot over thirty thousand beasts — sheep, goats, cattle, and horses. And everyone who has been scared by some dream or has encountered some omen divine or human, or who has seen some bird in an unfavourable quarter, casts into the Chasm what his personal means can afford by way of ransom for himself, sacrificing the life of an animal for his own life. And the victims are brought there without being hauled with ropes or otherwise compelled, and make the journey of their own free will owing to some mysterious attraction or spell. Then, as they stand on the brink, of their own accord they leap into the Chasm and are no more seen of the human eye once they have fallen into this



mysterious and yawning Chasm of earth, while above are heard the lowing of cattle, the baa of sheep, the neighing of horses, and the bleating of goats. And anyone who walks over the surface of the land and comes to the spot and listens will hear the aforesaid animals for a very long while. And the confused sounds never cease, since every day the Indians send in animals for their own redemption. Now whether it is only the recent victims that are audible or some of the earlier ones also, I cannot, say, but audible they are. So much for this singular trait in the animals of that country.

16.17 It is commonly reported that in the Great Sea, as it is called, there is an island of immense area, and I have heard that its name is Taprobane. And I learn that this island is very long and high: its length is seven thousand stades and its width five thousand; it has no cities, only seven-hundred-and-fifty villages, and the dwellings where the inhabitants lodge are made of wood and even of reeds. Now in this sea Turtles of immense size are hatched, and their shells are made into roofs, for a single shell measures fifteen cubits across, so that quite a number of persons can live underneath; and it keeps out the most fiery sun and affords a welcome shade; moreover it resists a downpour of rain, and, being stronger than any tiles, it shakes off pelting showers, while the inmates beneath listen to it being pounded, as though the water were descending upon a tiled roof. Yet they have no need to exchange old for new as you must with a broken tile, for the Turtle's shell is hard and resembles a rock that has been hollowed out or the roof of a cavern vaulted by nature.

16.18 Now this island which they call Taprobane in the Great Sea has groves of palm-trees wonderfully planted in lines, just as in luxurious parks shady trees are planted by those in charge; it has also pasturing grounds for numerous Elephants of the largest size. And these Elephants of the island are more powerful and bigger than those of the mainland, and may be judged naturally cleverer in every way. And so the people build huge ships (for the island of course has dense forests) and transport the Elephants to the mainland opposite, and having crossed, sell them to the King of the Calingae. But owing to the size of the island those who live in the middle of it do not even know the sea, but live as though they were on the mainland and only learn by report of the sea that surrounds and encircles them. Whereas those that live near to the sea are ignorant of the way in which Elephants are hunted and only know of it by hearsay: they devote themselves to catching fish and sea-monsters. For they assert that the sea which surrounds the circuit of their island breeds a multitude past numbering' of fishes and monsters, and moreover that they have the heads of lions and leopards and wolves and rams, and, still more wonderful to relate, that there are some which have the forms of satyrs with the faces of women, and these have spines attached in place of hair. They tell of others too which have strange forms whose appearance not even men skilled in painting and in combining bodies of diverse shapes to make one marvel at the sight, could portray with accuracy or represent for all their artistic skill. For these creatures have immense and coiling tails, while for feet they have claws or fins. I learn too that they are amphibious and that at night they graze the fields, for they eat the grass as cattle and rooks do; they enjoy the ripe fruit of the date-palm and therefore shake the trees with their coils, which being supple and capable of embracing, they cling round them. So when the shower of dates has fallen because of this violent shaking, they feed upon it. And then as the night wanes and before it is clear daylight these creatures plunge into the ocean and disappear as the dawn begins to glow. They say that there are also numerous Whales which lie in wait for the tunnies; they do not however come up on to the land. They also say that there are two kinds of Dolphin, the one savage, sharp-toothed, and absolutely merciless and without pity towards fishermen, the other naturally gentle and tame. At any rate it gambols and swims around, and resembles a fawning puppy, and if you handle it, it will allow you to do so, and if you throw food to it, it will receive it gladly.

16.19 The Sea-hare (I mean that which is found in the Great Sea; the other kind in the other sea I have mentioned above) resembles the land animal in every respect except in its fur. For the fur of the land-hare seems smooth and is not hard to the touch. Whereas the Sea-hare's fur is prickly and erect, and if one touches it one is stabbed. They say that it swims on the surface ripples of the sea and does not dive into the depths, and that it swims very fast. It is not easily caught alive, the reason being that it never falls into a net, nor yet will it approach the line and bait of a fishing-rod. When however this Hare through sickness and inability to swim is cast up on shore, anyone who touches it with his hand dies if he is not treated. Moreover even if he touches this hare with a stick, he suffers the same fate thereby, just like those who touch a basilisk. But they say that there is a root which grows in the island by the Great Sea and that it is well-known to everybody, and is an antidote to fainting. At any rate if it is applied to the nose of the fainting man it revives him. But if he is not treated, his malady grows worse until the man dies. Such power, you see, has this hare to work destruction.

16.20 In certain regions of India (I mean in the very heart of the country) they say that there are impassable mountains full of wild life, and that they contain just as many animals as our own country produces, only wild. For they say that even the sheep there are wild, the dogs too and the goats and the cattle, and that they roam at their own sweet will in freedom and uncontrolled by any herdsman. Indian historians assert that their numbers are past counting, and among the historians we must reckon the Brahmins, for they also agree in telling the same story.

And in these same regions there is said to exist a one-horned beast which they call *Cartazonus*. It is the size of a full-grown horse, has the mane of a horse, reddish hair, and is very swift of foot. Its feet are, like those of the elephant, not articulated and it has the tail of a pig. Between its eyebrows it has a horn growing out; it is not smooth but has spirals of quite natural growth, and is black in colour. This horn is also, said to be exceedingly sharp. And I am told that the creature has the most discordant and powerful voice of all animals. When other animals approach, it does, not object but is gentle; with its own kind however it is inclined to be quarrelsome. And they say that not only do the males instinctively butt and fight one another, but that they display the same temper towards the females, and carry their contentiousness to such a length that it ends only in the death of their defeated rival. The fact is that strength resides in every part of the animal's body, and the power of its horn is invincible. It likes lonely grazing-grounds where it roams in solitude, but at the mating season, when it associates with the female, it becomes gentle and the two even graze side by side. Later when the season has passed and the female is pregnant, the male *Cartazonus* of India reverts to its savage and solitary state. They say that the foals when quite young are taken to the King of the Prasii and exhibit their strength one against another in the public shows, but nobody remembers a full-grown animal having been captured.

16.21 When one has passed the mountains that border upon India there will come into view densely wooded glens on the inner side of the mountains, and the Indians call the region Colunda. And in these glens, they say, creatures resembling Satyrs roam at large; their whole body is shaggy and they have a horse's tail at their waist. And if left to themselves and not troubled, they live among the thickets and subsist off the trees, but whenever they hear the sound of huntsmen or the baying of dogs they run up to the mountain ridges with a speed that none can overtake, for they are inured to roaming the mountains. And from there they fight by rolling down rocks upon their assailants, and many are they that are caught and destroyed. These are the reasons why they are hard to capture, so they say that few indeed, and these at long intervals, are despatched to the Prasii, and of these few it was either sick animals or pregnant females that were despatched: the accident of their capture was due in the case of the males to their tardiness, in the case of the females to their being big-bellied.

16.22 The Sciratae also are a people on the other side of India, and they are snub-nosed, and are permanently so either from having their noses dented in tender infancy or because they are born like that. And in their country there occur Snakes of enormous size, some of which seize and devour the flocks, while others suck out their blood, just as the goatsuckers do in Greece: the latter I know I have mentioned earlier on at the most appropriate place.

16.23 Docility, it seems, is another characteristic of the Horse; witness the following account I have heard, that the inhabitants of Sybaris in Italy devoted an excessive amount of thought to delicate living; of other matters and pursuits they knew nothing, but spent their entire time in easy-going sloth and extravagance. To explain in detail all that went on in Sybaris would make a long story now; the following tale however attests their unsurpassed luxuriousness. Their horses had been trained to dance in time to the music of the pipe at their hour for banqueting. Accordingly the inhabitants of Croton knowing this (they were at war with Sybaris), had their trumpet with its piercing note that summons to arms silenced; they collected pipes and pipe-players, and when they were at close quarters and within a bowshot, the players struck up the dance-music. At the sound the horses of the people of Sybaris, imagining that they were in the midst of a wine-party, shook off their riders and began to leap about and dance. And they not only threw the ranks into confusion but also 'danced away' the war.

16.24 I have spoken earlier on of the horses which are called *lycospades*, and I will now describe some further characteristics of which I have heard. Their face is compact, short, and snub-nosed. They are said to be fond of the Greek people, to understand them by some mysterious means, and to maintain a natural friendship for them, so that if Greeks approach them, touch them, and pat them with the hollow of their hand, they do not resent it or shy away, but pass their days at their side as though they were tethered, and when the Greeks lie down to sleep they will sleep at their side. If however some foreigner approaches, then, just as hounds on the scent recognise animals by their tracks, so do these mares know the man's origin, and neigh and flee away as though they were afraid of some wild beast. But their delight is in familiar friends who give them fodder and generally tend them, and they are anxious to appear beautiful, especially in the eyes of their drivers. The proof of this is that when they go swimming they advance far into the lake or sea or spring in their eagerness to sleek their faces, so that nothing disfiguring or unlovely from the manger or from their journey may befoul their beauty. Fragrant unguents and the scent of perfumes are as dear to a lycospade horse as they are to a bride. And Homer testifies to the natural love which all horses have for unguents when he says

'For so mighty a charioteer and so gentle have they lost, who right often would pour upon their manes smooth oil when he had washed them in clear water.'

And Semonides describing how women are born and moulded after animals of all kinds, says that the horse's love of ornament and of perfumes is innate in some women also. These are his words

'But another is born of a dainty, long-maned mare: she turns away from servile tasks and drudgery; she will never touch a mill or pick up a sieve or cast muck out of the house, nor, since she would escape the soot, will she sit by the oven. Only by constraint does she take a man to her bosom. And every day she washes off the dirt twice, sometimes thrice, and anoints herself with perfumes. And always she wears her deep tresses combed and shaded with flowers. Such a woman is fair to look upon — for others, but to her husband, a plague, unless he be a despot or sceptred lord who delights his heart with such gauds.'

16.25 Here, I think, are further characteristics of Horses. In order that their Horses may not panic, the Persians accustom them to noises and the clang of bronze, and sound them so that in war they may never be afraid of the rattle of full armour and the clash of swords upon shields. And they throw dummy corpses stuffed with straw beneath their feet in order that they may get used to trampling on corpses in war and may not through terror at some unnerving occurrence be useless in encountering men-at-arms. Nor did this escape the notice of Homer, as he himself shows. At any rate we learn in our childhood from the *Iliad* how the Thracian Rhesus and his companions with him were slain. This is the story we learn. The son of Tydeus slaughters the Thracians, while the son of Laertes draws the slain men away by the feet for fear lest the Thracian horses, being newcomers, get entangled among the dead bodies and panic, and through being unused to them may leap aside as though they were treading upon some terrifying objects. But once Horses have learnt a thing, they will not forget what they have learnt, so clever are they at learning whatever is of any advantage; I have spoken earlier on of their capacity for affection and how far they will feel it.

16.26 In frosty regions when the snow falls and the cold is at its worst the Sheep have no gall (they are found to be in this condition when penned up and unable to get fresh fodder), but at the beginning of spring they go out to the pastures and become filled with gall. And this, they say, is a constant occurrence especially in the Sheep of Scythia.

16.27 Agatharcides asserts that there is in Libya a certain race of men who are called Psylli. So far as their general way of life is concerned they differ not a whit from other men, except that, compared with men of other nations, their bodies have an unusual and marvellous quality: they alone are uninjured by the numerous creatures that bite or strike. At any rate they do not feel either the bite of a snake or the prick of a spider which is fatal to others, or even the sting planted by a scorpion, and whenever one of these creatures comes near and touches a Psyllian and inhales the odour from him, it is as though it had tasted some drug, that brings on a drowsiness inducing insensibility, for it becomes quite weak and relaxed until the man has passed by. And their manner of proving that their children are either their own or bastards by testing them among reptiles, just as artisans test gold in the fire, I have described earlier on.

16.28 Callias in the tenth book of his *History of Agathocles of Syracuse* says that the Cerastes inflicts a terrible bite, for it kills dumb animals and human beings unless a Libyan belonging to the race of Psylli happens to be at hand. At any rate if a Psyllian comes in answer to a summons or is present by chance and sees that the victim is still only in slight pain, by simply spitting on the wound he alleviates the pain and conjures away the poison by his spittle! If however he finds the man in a sore plight and in intolerable suffering, he takes a large mouthful of water behind his teeth, and this same water with which he has rinsed his mouth he pours into a cup and gives to the stricken man to swallow. But if the poison is too strong even for this medicine, the Psyllian lies down naked beside the sick man also naked, and applying to him by friction the innate power of his own skin, renders the man free of the poison. And Nicander of Colophon should be sufficient witness to this when he says

'I have heard how the race of Psylli in Libya suffer not at all from the festering wounds inflicted by the creatures that are nurtured by Syrtis, mother of sands, and well-skilled are they to succour others also, when afflicted by their blows; not working with simples, but from their own limbs, skin touching skin,'

and so on.

16.29 Empedocles, the natural philosopher, who of course also speaks about the characteristics of animals, says that there are some creatures of composite nature, differing in, so far as they are two forms combined, but conjoined in a single body. These are his words:

'Many creatures are begotten with two faces and two breasts: some born of a cow have the fore-parts of a man; others on the contrary spring up begotten of a man but with the head of a cow; others again mingle the limbs of a male with those of a woman, being endowed with parts veiled in shadow.'

16.30 Callisthenes of Olynthus asserts that in Lycia the Goats are shorn just as sheep are; everywhere else, for they have such wonderfully thick, fine fleeces that one might say that their hair hung down in curls or ringlets. Moreover those who make tackle for ships use them for weaving ropes.

16.31 Ctesias in his account of India asserts that the people called *Cynamolgi* (dog-milkers) keep a great number of hounds as large as those of Hyrcania, and, in particular, that they are keen dog-breeders. The Cnidian writer gives the reasons as follows. From the summer solstice up to mid-winter herds of cattle come roaming; like a swarm of bees or a wasps' nest that has been disturbed, these cattle are past numbering. And they are wild and aggressive and vent their fury with their horns in a terrible fashion. Being unable to check them by any other means the Cynamolgi let loose their hounds, which they always breed for this purpose, upon them, and the hounds overcome and destroy them without any difficulty. Thereupon the men select such portions of the flesh as they consider suitable for eating, the residue they set aside for the hounds and are glad indeed to give them a share, an offering as it were to benefactors. And during the season when these cattle are no longer on the move the Cynamolgi have the hounds to help them in their pursuit of other beasts. The bitches they milk; hence their name, for they drink hounds' milk just as we drink that of sheep and goats.

16.32 In his work on agriculture Aeschylides says that in Ceos each of the farmers owns but few sheep, the reason being that the soil of Ceos is exceedingly poor and has no pasture-land. So they throw tree-medick and fig-leaves and the fallen leaves of the olive to the flocks, also the husks of various kinds of pulse, and they even sow thistles among their crops, all of which afford excellent feeding for the sheep. And from them they obtain milk which when curdled produces the finest cheese. And the same writer says that it is called *Cythnian* and that it is sold at the rate of ninety drachmas a talent. And lambs also are produced that are of remarkable beauty and are sold not at the price of ordinary lambs but for a far more impressive figure.

16.33 Phoenician histories state that the Cows of that country are so tall that the milkers for all their great height have to stand or else need a stool to enable them to reach the teats. And among the Libyans who border upon India, I learn that there are herds of cattle that graze moving backwards, the reason being that Nature made an initial blunder or failed to pay attention, because their horns grow in front of their eyes and prevent them, from seeing what lies immediately, ahead, and so she obliges them to move backwards, and they lower their heads and crop the grass. Again, Aristotle says that among the Neuri the horns and ears of the cattle spring from the same source and are knit together. And the same writer says that in a certain place in Libya the goats have their teats attached to the chest. Let me add the following statement also from the son of Nicomachus: he says that among the Budini who live on the banks of the Cariscus a white sheep does not occur, they are all black.

16.34 Nymphodorus says that Sardinia is an excellent mother of flocks. The goats which she nourishes are animals deserving admiration, for the natives clothe themselves in their skins and these afford them protection; and in the winter the skins keep them warm, and in the summer by some mysterious natural property keep them cool. The hair on the hides actually grows to the length of a cubit. And it seems that during frosty weather the wearer must turn the hairs of this garment inwards to the skin, but in summer outwards, if he wants to keep warm during the frost and not to be suffocated in the summer.

16.35 What? Are we to leave the name of Orthagoras without a mention? He says in his account of India that there is a village which has been given the name of Coytha, and that the herdsmen give dried fish as fodder to the goats of that country when in their pens.

16.36 I have stated earlier on that the Elephant dreads a pig; I now wish to tell what happened at Megara when the Megarians were besieged by Antigonos, and the story I have to tell is as follows. When the Macedonians were pressing them hard, they smeared some pigs with liquid pitch, set a light to them, and let them loose against the enemy. Goaded with pain and shrieking because of their burns, the pigs fell upon the troops of Elephants, driving them mad and throwing them into terrible confusion. So the Elephants broke ranks and were no longer tractable in spite of having been trained since they were small, either because Elephants by some instinct hate and loathe pigs, or because they dread the shrill and discordant sound of their voices. In consequence those who train young Elephants, being aware of this, keep pigs along with them, so it is said, in order that through herding together the Elephants may get to fear them less.

16.37 Among the people called Psylli in India (there are other Psylli in Libya also) the Horses are no bigger than rams, the Sheep look as small as lambs, while the Asses, Mules, Cattle, and domestic animals of every kind are proportionately small. They say that neither the domestic nor the wild Pig exists in India, and the Indians revolt at the idea of eating this animal: they would no more eat pork than they would human flesh.

16.38 I have heard that in Metropolis near Ephesus there is a lake and near to it a cavern. Now this cave contains a host of Snakes past numbering, and they say that their size is enormous and their bite terrible. The story goes that they emerge from the cave, crawl out as far as the lake near by, and swim about, but if they try to go further afield than the water they cannot, for while they are about to pass on to the land huge Crabs lie in wait for them, and these raise their claws, seize, throttle, and kill the Snakes. And so through fear of their enemy the Snakes remain where they are, and the land for them is inaccessible, for they dread the vigilance of the Crabs and the punishment which they inflict. And the people round about would long ago have been utterly destroyed, had not the aforesaid Crabs by some mysterious instinct encircled the margin of the lake and by keeping off the Snakes had ensured that all was peace thereabouts.

16.39 Onesicritus of Astypalaea says that at the time of the expedition of Alexander, the son of Philip, there were in India two Snakes kept by Abisares the Indian, and that one of them measured a hundred and forty cubits, the other eighty. He says also that Alexander had a great desire to see them.

Egyptian histories relate that in the time of Ptolemy Philadelphus there were brought from Ethiopia to Alexandria two live Snakes and that one of them was fourteen cubits long, the other thirteen; and in the time of Ptolemy Euergetes three were brought, one was nine cubits long, the second seven, and the third snake one cubit less. And the Egyptians assert that they were tended with great care in

the temple of Asclepius. And the same people maintain that Asps four cubits in length frequently occur. And so I have mentioned these facts in the course of discussing animal characteristics from a wish to demonstrate the length to which by nature they attain.

Now historians of Chios also assert that in that island near the mountain named Pelinnaeus in a wooded glen filled with tall trees there was a snake of gigantic size whose very hiss made the inhabitants of Chios shudder. None of the farmers, none of the herdsmen dared to approach the spot and observe its size, but they were confident simply from its hiss that the beast was a monster to strike one with consternation. Now the discovery how large in fact it was, was due to a miraculous and truly wonderful contrivance. A furious and violent wind assailed the trees in the glen and they were hurled one against the other, and the boughs crashed together with such force that they generated flames, and a huge fire was kindled which embraced the entire region and encircled the monster. It was cut off, and being unable to creep out was burned to death. And so when the place was stripped, all lay bare to view. And the inhabitants of Chios, freed now from their dread, came to see, and discovered the bones to be of gigantic size and the head terrifying. From these they were able to guess how large and how awful the brute was while still alive.

16.40 There is a snake called the Seps and it has this remarkable quality: it changes the colour of its body so as to match the places through which it passes. The four fangs of its lower jaw are hollow, and membrane-like veils cover them and conceal the hollows. Directly the creature has struck, it projects its poison through these ducts, which at once makes a festering wound and very soon causes death.

16.41 Megasthenes states that in India there are winged Scorpions of immense size and that they give a sting somewhat like the Scorpions of Europe. He also says that there are Snakes there with wings, and that their visitations occur not during the daytime but by night, and that they emit urine which at once produces a festering wound on any body on which it may happen to drop. This is what Megasthenes says. Further, Polycleitus says that in the same country there are lizards of very great size and of many colours, and that their skins are wonderfully dappled with bright hues, and that they are extremely soft to the touch. And Aristotle says that there are lizards in Arabia two cubits long.

16.42 Pammenes in his work *Concerning Wild Animals* says that in Egypt there are Scorpions with wings and a double sting (this, he says, is not mere hearsay, but professes that it is his personal observation): there are also two-headed Snakes which have two feet in the region of the tail. Further, Ctesias of Cnidus says that in the neighbourhood of Sittace in Persia there is a river called the Argades, and that it contains a great number of Snakes whose bodies are entirely black except for the head, and this is white. These Snakes attain to as much as six feet in length. By day they are not visible, for they swim under water, but at night they kill those who come either to draw water or to wash their clothes. And the victims are numerous, either because they need water when their supply fails, or because they were busy during the day-time and unable to wash their clothes then.

## Book 17

17.1 Alexander in his *Voyage Round the Red Sea* says that he has seen Snakes forty cubits long, and a species of Crab whose shell measured one foot across in all directions, with claws attached and projecting to an enormous length. But nobody has designs upon them, the reason being that they are said to be sacred to Poseidon. And they are consecrated to the god, so that, as offerings to him, they are free from harm and immune from attack.

17.2 Cleitarchus in his work on India says that there are Snakes sixteen cubits long. He also relates that there is another species of Snake different in appearance from the rest, for it is a great deal shorter and its colour looks mottled as though it had been: painted with pigments: some have stripes of bronze; descending from the head to the tail, others look like silver, others again are stained red, and there are even some with a golden sheen. The same writer asserts that they give a terrible bite which kills very speedily.

17.3 Nymphis in the ninth book of his *History of the Ptolemies* says that in the country of the Troglodytes there are Vipers of surpassing size if compared with other vipers, for they measure as much as fifteen cubits. Moreover the Tortoises have shells large; enough to contain six Attic *medimni*.

17.4 The *Prester* also is a species of snake and if it bites, to begin with it makes men lethargic and quite incapable of bestirring themselves, and in the next place they gradually weaken and are unable to breathe. Further, the bite induces loss of memory, stops the flow from the bladder, and causes the hair to fall; then there ensues a choking which causes convulsions, and life ends in agonies.

17.5 Phylarchus in his twelfth book gives the following account of the Asps of Egypt. He says that they are treated with great respect, and as a result of this respect they become extremely gentle and tame. And so, being fed along with the children, they do no harm, but creep out of their lairs when called and come to the spot. And the way to call them is to snap one's fingers. Then the Egyptians give them presents in the way of friendship, for when they have finished their meal they soak barley in wine and honey and place it on the table off which they happen to have dined. Then they snap their fingers and summon 'the guests,' so to call them. And the Asps as at a signal assemble, creeping out from different quarters, and as they encircle the table, while the rest of their coils remain on the floor, they rear their heads up and lick the food; gently and by degrees they take their fill of the barley and eat it up. And if some need causes the Egyptians to rise during the night, they again snap their fingers: this is a signal for the Asps to make way for them and to withdraw. So the snakes realise the difference between this sound and the other and the reason for it, and promptly retire and disappear, creeping into their holes and lairs. Accordingly the man who has got out of bed neither treads upon nor encounters any of them.

17.6 The Crocodile often attains to an immense length. At any, rate they say that in the reign of Psammitichus, King of Egypt, there appeared a Crocodile twenty-five cubits long, and in the reign of Amasis there appeared one of twenty-six Cubits and four palms. And I have heard that in the Gulf of Laconia there are sea-monsters of immense size; that is why according to some grammarians



Homer speaks of 'Lacedaemon with its sea-monsters.' And round about Cythera there are said to be sea-monsters still larger. And it appears that their sinews are useful for the stringing of harps and other instruments, and even for engines of war. And in addition to those that I have mentioned before there occur in the Red Sea Scorpion-fish and Gobies two and even three cubits long. And Amometus says that in Libya there is a certain city where the priests by their powerful spells draw Crocodiles sixteen cubits long from a certain lake. And Theocles in his fourth book says that round about Syrtis there are Sea-monsters larger than a trireme. And Onesicritus and Orthagoras say that round the coast of Gedrosia (this is no inconsiderable part of India) there are Sea-monsters half a stade in length, and so powerful are they that, when they blow with their nostrils, they often hurl up a wave from the sea to such a height that ignorant and inexperienced people take it for a waterspout.

17.7 Aristotle says in the eighth book of his *History of Animals* that Elephants eat nine Macedonian *medimni* of barley, and in addition six of barley-groats, or even seven if you give it them. And he also says that they drink fourteen Macedonian *metretae* of water, and again eight more in the afternoon. Elephants, he says, live for two hundred years, and there are some that even attain to three hundred.

The Camel greatly dislikes clear, pure water for drinking, and regards muddy, dirty water as the pleasantest. Indeed if it comes to a stream or-a lake, it does not bend down to drink until it has stirred up the slime with its feet and destroyed the beauty of the water. And if it goes unwatered, it can endure for as much as eight days.

17.8 In his writings about the Red Sea Pythagoras says that there is an animal that lives on the shores and is called *Kepos*. And it is well-named (*kepos*, garden), for it is of many colours. When full-grown it is the size of an Eretrian hound. But I wish to return to the subject of its varied colouring and to describe it as he writes. Its head, its back, and its spine down as far as the tail are a pure red, though you may observe a sprinkling of golden hairs. But its face including the cheeks is white, and from there golden stripes descend as far as the neck. The lower portions down to its chest and its forefeet are all white; its two breasts, which would fill your hand, are dark, but its belly is entirely white; its hind feet are black. As to the shape of its face, be sure you will not go wrong if you liken it to that of a baboon.

17.9 There is a certain creature which they call an *Onocentaura* and anybody who has seen one would never have doubted that the race of Centaurs once existed, and that artificers did not falsify Nature, but that time produced even these creatures by blending dissimilar bodies into one. But whether, in fact they came into being and visited us at one and the same period, or whether rumour, more ductile than any wax and too credulous, fashioned them and by some miraculous combination fused the halves of a horse and a man while endowing them with a single soul — let us pass them by. But this creature of which my discourse set out to speak, I have heard described as follows. 'Its face is like that of a man and is surrounded by thick hair. Its neck below its face, and its chest are also those of a man, but its teats are swelling and stand out on the breast; its shoulders, arms, and forearms, its hands too . . . chest down to the waist are also those of a man. But its spine, ribs, belly, and hind legs closely resemble those of an ass; likewise its colour is ashen, although beneath the flanks it inclines to white. The hands of this creature serve a double purpose, for when speed is necessary they run in front of the hind legs, and it can move quite as fast as other quadrupeds. Again, if it needs to pluck something, or to put it down, or to seize and hold it tight, what were feet become hands; it no longer walks but sits down. The creature has a violent temper. At any rate if captured it will not endure servitude and in its yearning for freedom declines all food and dies of starvation.

This also is the account given by Pythagoras and attested by Crates of Pergamum in Mysia.

17.10 Boeotia is free of Moles, and this animal does not burrow through at Lebadea, and if by some chance Moles are introduced from elsewhere they die. [But in the neighbourhood of Orchomenus they abound.]

In Libya there is an absence of wild swine and of stags. In the Euxine there are neither cephalopod mollusca nor testacea, except on rare occasions and in small numbers. And Dinon says that in Ethiopia there occur the one-horned birds, swine with four horns, and sheep destitute of wool but with the hair of camels.

17.11 Those who are skilled at testing and investigating such matters assert that in Zacynthus people who are bitten by Malmignattes are not only assailed by all the symptoms that assail other victims elsewhere but by even more, for their entire body is infected with a torpor and a kind of trembling and a violent chill, and (there follow) vomitings which produce convulsions, and their member stands up. They have violent earache too, and the sole of either foot is painful. Moreover even those who touch them with their hands exhibit all the symptoms which I have enumerated. But it is startling to learn, and even more amazing to see, how when some persons unbitten tread in the water in which the victims have washed, or simply bathe their feet in it (as of course frequently happens; indeed this has been brought about before now through the evil, designs of enemies), they too suffer all the pains, incurred by the victims of the bite.

17.12 I learn that there is a species of Toad which it is fatal to drink and dangerous to look at. It is fatal to drink if a man crushes a Toad and then offers the blood to another to drink after he has with malicious intent poured it into wine Or such other beverages as accursed practitioners of these arts deem; suitable for mixing with it. The draught brings not a lingering but an instant death. To gaze at a Toad, is harmful in this way. If a man sees the beast and then looks intently at it, face to face, while it, following its nature, retaliates with a bold gaze and also breathes forth the breath which though natural to it has an adverse effect on the human skin, it turns the man pale, so that anyone who had not seen him but met him for the first time would say that he had seen a sick man. And the pallor lasts for a few days only and then disappears.

17.13 The Stone-curlew, it seems, has this gift, which assuredly is by no means to be despised. At any rate if a man who has become infected with jaundice gazes intently at it and it returns the gaze, without flinching, as though it were moved by jealousy against the man, this retaliatory gaze heals the man of the aforesaid complaint.

17.14 For my part I do not believe Eudoxus, but if others are persuaded by him, then they may believe Eudoxus when he says that after passing the Pillars of Heracles he saw upon some meres certain birds larger than oxen. That his statement fails to convince me I have already remarked. But what I have heard I do not suppress.

17.15 Aristotle says that when the female Partridge gets to leeward of the male bird, by some mysterious process of nature she becomes impregnated. This bird builds its nest in seven days, and in seven days lays its eggs, and in the same number of days rears its chicks.

Timaeus, Heraclides, and Diocles the physician state that Toads have two livers, and that one of them is deadly, while the other is its natural rival, for it brings health.

17.16 Theopompus says that at the season of the third ploughing and sowing the Veneti who live on the shores of the Adriatic despatch presents to the Jackdaws, and these presents would be cakes of ground barley with honey and oil well and truly kneaded. The purpose of these presents is to placate the Jackdaws and to declare a truce, so that they shall refrain from digging up and collecting here and there the fruits of Demeter sown in the soil. And Lycus confirms this adding further: the following details . . . scarlet thongs, and after setting them out they withdraw. And the clouds of Jackdaws remain outside the boundaries, while two or three birds, selected like ambassadors from cities, are sent to take a good look and see how many presents there, are. After their inspection they return and summon the birds, giving the call which is natural for them to utter and for the others to respond to. And the birds come in clouds, and if they eat the aforesaid presents, the Veneti know that there is a truce between them and the aforesaid birds. If however they ignore and scorn them as skimpy and refuse to eat them, the inhabitants are confident that a famine will be the price they have to pay for this rejection. For if the aforesaid birds remain unfed and, so to say, unbribed, they swoop upon the ploughlands and pillage in the most distressing way the greater part of what has been sown, digging up and tracking out the seeds in their anger.

17.17 Amyntas in the work which he entitles *Stages* says that in Caspian territory there are numerous herds of cattle and of horses and that they are past counting. And he adds the following statement: at certain changes of the seasons Rats, visit the land in countless hordes; and he adduces as evidence the fact that when the perennial rivers come roaring, down, the Rats have no hesitation in swimming them, and by fixing their teeth in one another's tails, acquire support and make an unbreakable chain for the crossing of the strait. And when they have swum across to the ploughlands they cut the crops at the foot, creep up all over the trees, make a meal off the fruits, and cut through the branches, for they are capable of eating up even these. And so the Caspii to protect themselves against these raids and the ruin caused by the Rats, refrain from killing birds of prey, which in their turn come flying in clouds and snatch up the Rats and by some natural instinct of their own avert famine from the Caspii.

The Foxes in Caspian territory are so numerous that they not only constantly visit the sheepfolds in the country but actually come up into the towns. And a Fox will appear in a house not, you may be sure, with any mischievous or thievish intent but as though it were tame. And they fawn and wag their tails (just like) lapdogs in our country. And the Rats, which are a chronic plague to the Caspii, are as large as the ichneumons of Egypt. And they are savage, destructive, and have strong teeth, and are even able to cut and eat through iron. And the Rats of Teredon in Babylonia are just the same, and the traders there bring their skins to the Persians, for they are soft and when sewn together make tunics that keep men warm. And these garments they call *candytanēs* or 'clothes-presses' according to custom. And here is another amazing phenomenon about these Rats, if a pregnant Rat is caught and the foetus is removed, and after the dissection of the female the foetus in turn is opened, it too is found to contain a young Rat.

17.18 Here is another characteristic of the Sting-ray which I have learnt. When a man sees it swimming below the surface, if he begins to dance in his fishing-boat and utters taunts and jibes, and, moreover, should he chance to be a pipe-player, if he has his pipe as an attraction and will play a tune, the Sting-ray is delighted (you know it has ears that are sensitive to music, so they say, and eyes that can appreciate dancing) and in answer to the spell floats gently to the surface. Meantime the fisherman continues to put forth all his enchantments as described, while some other hand manages the creel and draws up the fish. And what is, I think, the most extraordinary feature is that the fish is so beguiled that it is unaware that it has been caught.

17.19 Eudoxus says that the eastern Galatians act as follows, and if anyone regards his account as credible, he may believe it; if not, let him pay no attention to it. When Locusts invade their country in clouds and damage the crops, they put up certain prayers and offer sacrifices warranted to charm birds. And the birds lend an ear and come in a united host and destroy the Locusts. If however some Galatian should capture one of the birds, his punishment as laid down by the laws of the land is death. But if he is pardoned and let off, this throws the birds into a passion, and to avenge the captured bird they do not deign to respond if they do happen to be invoked again.

17.20 Aristotle says that a white Swallow occurs in Samos, and that if one puts out its eyes, it immediately becomes blind, but that later on 'sight is restored and the eyes are enlightened', and once again it can see, according to his account.

17.21 I have heard that the *Cinnamomus* is a bird; also that it fetches twigs of the tree that bears its name from the ends of the earth and builds nests in places which our historians, Herodotus and others, describe. And these birds seem to like constructing their couches and lodgings, (among sheer crags). Accordingly, those who are anxious to obtain these twigs shoot heavy arrows that go with a tremendous whizz from a bowstring strained to the utmost, at the nests. And the nests are shattered and the twigs come tumbling down, and they are the celebrated *Cinnamon*.

17.22 Let us make room for Cleitarchus also. He says that in India there occurs a bird with strongly amorous propensities and that it is called the Orion. Well now, let us depict it as he has described it. This 'Orion' is the same size as the birds they call herons and its legs are red like theirs; its eyes are dark (in this respect it is unlike them), and Nature has taught it to make melody sweet as any bridal song with its alluring charms.

17.23 Cleitarchus says that the *Catreus*, as it is called, is a native of India, and is a bird of magnificent beauty. It might be about the same size as a peacock; the tips of its feathers are the colour of an emerald, and when it looks in another direction you cannot tell what its eyes are like. If however it looks you in the face, you will pronounce them to be vermilion all except the pupil, and this has a grey hue and a keen glance. And, what is white in the eyes of all other birds is pale brown in the *Catreus*. And its head feathers are a bluer-grey with saffron-coloured speckles sprinkled here and there. Its legs are an orange colour, and its note is as melodious and clear as the nightingale. Now the use of these birds for food is (prohibited) by the Indians, in order that spectators may feast their eyes upon them. At any rate there are to be seen in India birds entirely scarlet, the colour of the purest flame, and they fly in such multitudes that one would take them for clouds. Others however are mottled and it is not very easy to say what they look like, but for beauty and clarity of tone their singing is unsurpassed; they might be, if the expression is not too strong, Sirens, for these fabled maidens as celebrated by poets and portrayed by artists had wings.

17.24 The Swan's customary haunts are lakes, marshes, pools, and rivers with a ceaseless, gentle, tranquil flow. They are creatures of peace and attain to an old age that has no burdens for them. Their strength is redoubtable and that gives them confidence, but not to the extent that they are the aggressors in an injury, against an aggressor they will defend themselves. And so they have no difficulty in getting the better of eagles when the latter, venture to attack them. I have described earlier on how they do battle.

17.25 Cleitarchus says that in India there are Monkeys of a mottled hue and immense size. And in mountainous districts they are so numerous that, says Cleitarchus, Alexander, the son of Philip, and the army under his command also were quite terrified at the sight of their massed numbers,

imagining that they saw an army marshalled and waiting in ambush for them. You see, the Monkeys happened to be standing upright when they appeared. These creatures are not to be caught with nets or by means of hounds following a scent, however great their skill in hunting. But this Monkey is ready to dance if it sees a man dancing; it is even willing to play the its pipe if it could learn how to blow. Further, if it catches sight of someone putting on his shoes, it imitates the action; and if a man underlines his eyes with lamp-black, it is anxious to do this too. Accordingly in place of the aforesaid objects men put out hollow, heavy shoes made of lead, to which they attach a noose underneath, so that when the Monkeys slip their feet into them they are caught in the snare and cannot escape. And as a bait for their eyes men put out bird-lime in place of lampblack. And an Indian after using a mirror in sight of the Monkeys... displaying not genuine mirrors but ones of a different kind, on to which they lace strong nooses. Such then is the apparatus which they employ. And so the Monkeys come and gaze steadily, imitating what they have seen. And from the reflecting surface opposite their sight there is a surge of strongly gluey substance that gums up their eyelids, when they gaze intently into it. Then being unable to see, they are caught without any difficulty, for they are no longer able to escape.

Now touching Monkeys both Indian and non-Indian I have written an account elsewhere, but the foregoing chapter contains facts that must assuredly interest any man of intelligence.

17.26 I have no doubt that in India the Lions are of the very largest, the reason being that this country is an excellent mother of other animals. And they are exceedingly wild and savage. The mane of these Lions is black in appearance, and when it bristles and stands upright it inspires such fear as to unnerve a man. But if once they can be captured, they can be tamed, though not the largest of them. And they become gentle and are easily domesticated, so that they can be led by a rein to hunt prickets, deer, swine, bulls, and wild asses, for they are (so I have heard) clever at tracking by scent.

17.27 It is said that in Libya there used to exist a race of men called the Nomaei. They continued generally prosperous in a territory where the pastures were good and the land unquestionably rich, until finally they were wiped out when a vast horde of Lions of the very largest size and of irresistible boldness attacked them. The whole race to a man was destroyed by the Lions and perished utterly. A visitation by Lions in a mass is something that no creature can withstand.

17.28 Euphorion says in his *Commentaries* that in *primaeval* times Samos was uninhabited, for there appeared in the island animals of gigantic size, which were savage and dangerous for a man to approach, and they were called *Neades*. Now these animals with their mere roar split the ground. So there is a proverbial saying current in Samos, 'He roars louder than the Neades.' And the same writer asserts that their huge bones are displayed even to this day.

17.29 When the Indian King goes to battle against in his enemies a hundred thousand Elephants of war form the vanguard. And I learn that another three thousand of the largest and strongest bring up the rear, and these have been trained to overturn the enemies' walls by attacking them when the King gives the order; and they overturn them by the weight of their chest. Such is the account given by Ctesias, who writes that this is hearsay. But the same writer says that in Babylon he has seen date-palms completely uprooted by Elephants in the same way, the animals falling upon them with all their force. This they do if their Indian trainer orders them to do so.

17.30 Zenothemis says that a lake in Paeonia produces certain Fish, and if these are given, while still gasping, to cattle, the cattle are glad to take their fill of them, as others do of fodder. But if the Fish

are dead the cattle refuse to touch them, so he says.

17.31 I have heard that in Armenia there is a lofty rock which discharges a copious stream of water, And I am told that at the foot of the rock there is a square fountain, each side measuring half a stade, and the depth is three fathoms. I learn further that along with the aforesaid water there descend Fish often a cubit long and even more, but sometimes less, though not much less. Some of them collapse half dead, Others fall gasping and die a violent death. And report states that they are a deep black-and unsightly to look at. And if man or beast eats of them, death follows immediately. Accordingly the Armenians, since their country is infested with numerous wild animals, collect these Fish and dry them by the heat of the sun; they then mince them, after bandaging nose and mouth in order to prevent themselves from inhaling the odours given off by the Fish in the process of being brayed, and so catching their death. Then after making the Fish into meal they sprinkle it about in the districts that are most infested with wild beasts; they even have a custom of mixing figs with the meal. And this is the way in which they destroy wild swine, gazelles, deer, bears, wild asses, and goats, and these too are wild. For these animals eat figs and meal. But they adopt a different device for killing lions, leopards, and wolves, which are carnivorous. They make a slit in the side of a tame sheep or goat deep enough to admit a hand, and sprinkle in some of that selfsame meal, and deadly indeed is the bait which is set before the above-mentioned animals. And so whenever a lion or a leopard or a wolf or other savage beast comes across the body and tastes it, it dies immediately. The whole country of Armenia is in fact the nurse and mother of wild animals, especially the plainlands bordering the river.

17.32 I have heard that in the land of the Caspii there is a lake of very wide extent, and that in it there occur large fishes which are called *Oxyrhynchi*. Now the Caspii hunt them and after salting, pickling, and drying them, pack them on to camels and transport them to Ecbatana. And after removing the fat they make meal from these fish; with the oil, which is extremely rich and free from any evil smell, they anoint themselves; but the inwards they extract and boil, and therefrom they make a glue which can be of great service, for it holds all objects together firmly, and sticks to whatever it has been attached to, and is very clear. And it holds all objects which it binds and unites, so tight that even if soaked in water for as much as ten days it will not dissolve or come away. Moreover workers in ivory use it and produce most beautiful pieces.

17.33 There is a story that among the Caspii there occurs a bird as large as the largest cockerels, of variegated hue, and gay with many colours. And it flies, so I hear, upside down with its legs extended upwards beneath its neck, seeming to sustain itself by these means; and it utters a note like that of a puppy; and it flies not high up in the sky but along the ground, being unable to soar.

The following bird also is a Caspian, or rather an Indian, bird, for its generic type is spoken of both in the latter and in the former connection, and it may be the size of a goose. It has a broad but shallow head and long legs; its colour is variegated, for its back is beautified with purple markings while its belly beneath is the colour of the purest and most splendid scarlet, and its head and throat are both white. It makes a sound like a goat.

17.34 The Goats of the Caspii are a pure white but grow no horns; they are small and snub-nosed. Their Camels are past numbering, and the largest are the size of the largest horses and have beautiful hair. For their hair is so fine that it can compare with Milesian wool for softness. Accordingly their priests and the wealthiest and most powerful of the Caspii clothe themselves in garments made from Camels' hair.

17.35 Antenor in his *History of Crete* says that by way of an attack ordained of heaven a swarm of Bees, celebrated as copper-coloured, invaded the city of the people known as Rhaucii and planting their stings in them, inflicted the most grievous pain. So as the people were unable to endure the Bees' attack they quitted their country and went to some other spot where through affection for their 'mother-city,' to use the Cretan idiom, they founded a second Rhaucus, since, even though the god drove them from their home, they could not endure to part utterly with the name. And Antenor states that there are still vestiges of this species of Bee on Mount Ida in Crete; they are not numerous, but they do still exist and are painful to encounter as the former were.

17.36 The Lion delights to eat the flesh of Camels. Herodotus bears witness to this when he says that Lions fell upon the Camels of Xerxes which were carrying his provisions, But they did no damage to any other living beings, neither beast of burden nor man, so he says. But in his examination of the food of Thracian Lions Herodotus shows little knowledge. The Arabians however, and all whose country is at once the mother and the nurse of Lions know these things. At any rate I should not be surprised if it were by some mysterious instinct that the Lion, in spite of having never seen one before, delights to eat the flesh of a Camel, if he chances to come across one. For a natural appetite kindles the desire for a specific food even in those who have never seen it before.

17.37 Some men, sixteen in all, reaping beneath a blazing sun and oppressed with thirst, despatched one of their number to fetch water from a spring near by. So the man went off with his reaping sickle in his hand and the pail for drawing water over his shoulder. On arrival he found an Eagle wrapped in the powerful grip of a snake. The Eagle, happened to have swooped upon it but failed to achieve its design and could not, as in Homer, carry their food to its young ones. Instead of that it fell into the serpent's coils and so far from killing was likely to be killed. So the husbandman knowing that the Eagle was the messenger and minister of Zeus and knowing too that the snake was an evil brute, cut the beast in two with the aforesaid sickle and released the Eagle from that inescapable grip that bound it. And yet all this was performed as a secondary purpose of the man's journey, and after drawing the water he returned, mixed it with the wine, and dispensed it to the company, whereupon they drained their cups at a single draught many times over at their luncheon. The man himself was intending to drink after the others, for he happened at that time to be rather their servant than their fellow at table. But when he raised the cup to his lips, the Eagle which he had rescued and which, fortunately for him, was still lingering about the spot, to reward him for saving its life swooped upon the cup, dashed it from his hand, and spilt the drink. The man was annoyed, for he was indeed thirsty, and exclaimed 'So it is you' (for he recognised the bird), 'yet this is how you thank those who saved your life! I ask you, is this fair? And how should a man hereafter want to do a good turn to another from respect for Zeus who marks and watches over kind actions?' Such were his words and he felt parched. But turning round he saw the men who had drunk gasping and at the point of death. It seems, at a guess, that the snake had vomited into the spring and mingled the water with its poison. And so the Eagle repaid its saviour by similarly saving his life.

Crates of Pergamum says that Stesichorus also sings of this in a poem which has not, I think, reached a wide public, and he has cited, in my opinion, a weighty witness from ancient times.

17.38 In the Caspian Sea, they say, there are islands in which there occur birds of different species, but one species has this peculiarity. It is said to be the size of a goose, though its legs resemble those of a crane. Its back is an intense scarlet, while its belly below is green. The neck is white and has saffron-coloured dots as it were sprinkled over it. It measures not less than two cubits; its head is narrow and long, its beak black, and its cry is like a frog's.

17.39 Megasthenes says that in the country of the Prasii (this is a part of India) there are Monkeys as large as the largest hounds, and that they have tails five cubits long. They have also forelocks and thick, pendent beards. Their face is completely white, whereas their body is black, and they are tame and very fond of human beings, and they have not the naturally mischievous temperament of Monkeys elsewhere.

17.40 In India there is a region that lies about the river Astaboras in the country of the *Rhizophagi* (root-eaters), as they are called. About the time of the rising of the Dog-star, Mosquitoes, which appear in terrifying clouds such as to fill the sky, work widespread damage. It is about the lake called Aoratia (this too is in India, not far from the aforesaid river) that these insects, the Mosquitoes, abound, and the district not only is, but is called, a desert. And the Indians who live round about give the following reason for it: the aforesaid district was not formerly or originally barren of human beings, but scorpions overran the country in numbers that defied resistance, and in addition there came a crop of certain spiders which they call 'four-jawed.' Now they say that these plagues tainted the air. For a time the inhabitants courageously held out against the invading plague and stood their ground energetically, but when resistance became utterly impossible and all their men-folk were destroyed, then at length, being at their wits' end how to defend themselves against the attack of the aforesaid visitants, they abandoned the country, and left their cherished and once most kindly fatherland a desert. Perhaps I shall not be wrong if I say that it was not even their 'motherland.'

17.41 The incursion of an army of Fieldmice, far from beneficial, I can assure you, drove certain people in Italy from their native country, and made them exiles, as a drought or frost or some other unseasonable event might have done, by shearing away the ears of corn and cutting through the roots. And a horde of Sparrows invaded Media and drove out the of inhabitants by ruining and destroying the seeds. And half-formed Frogs fell in quantities from the sky of causing the Autariatae to emigrate to some other place. Further, a tribe in Libya, whom I have mentioned earlier on, were compelled by an invasion of Lions to quit their native country.

17.42 In Babylonia there occur Ants with the generative part of their body turned in a backward direction, contrary to its position in Ants elsewhere.

17.43 The Leopard of Caria and Lycia is not fierce-tempered, nor of a kind that can leap high, though its body is long. But when wounded with pikes and spears it offers resistance and does not readily yield to the steel, behaving as Homer describes: 'Yet though pierced with a spear she does not cease.'

17.44 A description of the shape and appearance of the Rhinoceros would be stale three times over, for there are many Greeks and Romans who know it from having seen it. But there is no harm in describing the characteristics of its way of life. It has a horn at the end of its nose, hence its name. The tip of the horn is exceedingly sharp and its strength has been compared to iron. Moreover it whets it on rocks and will then attack an Elephant in close combat, although in other respects it is no match for it because of the Elephant's height and immense strength. And so the Rhinoceros gets under its legs and gashes and rips up its belly from below with its horn, and in a short space the Elephant collapses from loss of blood. Rhinoceros and Elephant fight for possession of a feeding ground, and one may come across many an Elephant that has met its death in the above manner. If however the Rhinoceros is not quick enough to do as described but is crushed is it runs underneath, the Elephant slings its trunk round it, holds it fast, drags it towards itself, falls upon it, and with its



tusks hacks it to pieces as with axes. For even though the Rhinoceros has a hide so strong that no arrow can pierce it, yet the might of its assailant is extremely powerful.

17.45 It seems that those Ethiopian Bulls which they call 'flesh-eaters' are the most savage of animals. They are twice the size of Bulls in Greece, and their speed is very great. Their hair is red, their eyes blue-grey, more so than the eyes of lions. In normal times they move their horns as they do their ears, but when fighting they raise them, making them stand strongly up, and so do battle; and once raised in passion owing to some truly wonderful natural cause their horns do not go aslant. No spear, no arrow can wound them: iron, you see, does not penetrate their hide, for the Bull raises its bristles and throws off the weapons showered upon it in vain. And it attacks herds of horses and also wild animals. Accordingly herdsmen who wish to protect their flocks dig deep concealed ditches and by these means ambush the Bulls. And when they fall into these ditches they are choked with rage. Among the Troglodytes this is judged to be the king of beasts, and rightly so, for it possesses the courage of a lion, the speed of a horse, the strength of a bull, and is stronger than iron.

17.46 Mnaseas in his work *On Europe* says that there is a temple to Heracles and to his spouse whom poets celebrate as the daughter of Hera. Now they say that in the precincts of these temples a large number of tame birds are kept, adding that these birds are cockerels and hens. They feed and consort together according to their sex, are fed at the public expense, and are consecrated to the aforesaid gods. The hens feed in the temple of Hebe while their mates feed in the temple of Heracles. And a never-failing channel of clear water flows between them. Now on the one hand not a single hen ever appears in the temple of Heracles. On the other hand at the season of mating the cockerels fly across the channel and after consorting with the hens return again to their own quarters at the side of the god whom they serve, cleansed by the water that separates the sexes. And so to begin with, as a natural result of this union eggs are laid; later on when the hens have warmed them and hatched the chicks, the cockerels carry off the male birds and rear them, while the hens make it their business to rear their daughters.

17. EPILOGUE. All that my own application, reflection, and labour to augment my knowledge, all that the advance of understanding in these studies (as eminent scholars vied with each other in acquainting themselves with these matters) have traced out and discovered — all this I have now set down to the best of my ability. I have not through idleness omitted anything that I have learnt, as though animals, void of reason and of speech, were beneath my notice and to be despised, but here as elsewhere I have been fired by that love of knowledge which in me is inherent and innate. I am well aware that among those who keep a sharp look-out for money, or who are keen in the pursuit of honours and influence and all that brings reputation, there are some who will blame me for devoting my leisure to these studies, when I might have given myself airs and appeared in palaces and attained to considerable wealth. I however occupy myself with foxes and lizards and beetles and snakes and lions, with the habits of the leopard, the affectionate nature of the stork, the melodiousness of the nightingale, the sagacity of the elephant, and the shapes of fishes and the migrations of cranes and the various species of serpents, and so on — everything which in this account of mine has been carefully got together and observed. But it is no pleasure to me to be numbered among your rich men and to be compared with them. But if I exert myself and desire some how to count myself one of that company to which learned poets, and men clever at detecting and probing the secrets of nature, and writers who have attained the greatest experience, claim to belong, it is obvious that my own counsel is better than the judgment of those men. For I would

rather attain to expert knowledge in at least one branch than to the belauded riches and possessions of your wealthiest men. So enough of this for the present.

I am aware too that some will express disapproval because I have not in my discourse kept each creature separate by itself, and have not said in its own place all that is to be said about each, but have mixed the various kinds like a varied pattern in the course of describing a great number, at one point dropping the narrative about such-and-such animals, at another going back and stringing together other facts about their nature. Now in the first place, speaking for myself, I am no slave to another's judgment and will: I maintain that it is not my duty to follow another's lead wherever it may take me. And in the second place, since I was aiming to attract through the variety of my reading matter, and since I flee from the tedium arising from monotony, I felt that I ought to weave the tissue of this narrative of mine so as to resemble a meadow or a chaplet beautiful with its many colours, the many creatures, as it were, contributing their flowers. And although hunters regard the finding of even one animal as a piece of luck, I maintain that there is nothing splendid in finding the tracks or capturing the bodies of such a multitude of animals, whereas to track down the faculties which nature has seen fit to bestow upon them — that is splendid.

What have they to say to this, your Cephaluses and Hippolytuses, and all the others so skilful in the chase upon the wild mountains, or again, among those who were skilled in fishing, Metrodorus of Byzantium, or his son Leonidas, or Demostratus, or any others who were past masters at the catching of fish? And there were many such, god knows! Painters too: the picture of a horse consummately drawn fills them with pride, as it did Aglaophon; or the picture of a fawn, as it did Apelles; or his statue of a calf, as it did Myron; or take any other work of art. But when one man displays and brings forth to the light of day his researches into the habits, the forms, the sagacity, the shrewdness, the justice, the temperance, the bravery, the affection, the filial piety of such a great number of animals, he cannot fail to claim immediate respect. Having reached this point in my discourse I am distressed that while praising the filial piety of unreasoning animals, I have to accuse men of the reverse. I shall not here enlarge on this subject, but this much I have every right to add — indeed I mentioned this point at the beginning of this treatise: it is not fair to censure me for repeating what all, or at any rate most, writers have said already. After all I could not create other animals, though I have given evidence that I have known a great many. Yet I have in fact mentioned certain characteristics which no other writer who has attempted the work on my scale has mentioned. But I prize truth in all spheres, most of all in this, and critics who handle me without malice will realise the quality of my work, the labour it cost, the dignity of its style and composition, and the propriety of the words and phrases employed.

**The End**

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 Wolf (*λύκος*), aids fishermen 6. 65; and Apollo 10. 26; in Armenia 17. 31; and ass 8. 6; and bull 5. 19; cannibal 7. 20; countries hostile to 3. 32; ww. cross river 3. 6; Egyptians worship 9. 18; and eye-sight 10. 26; feeding-habits 4. 3; and flute-music 11. 28; and fox 1. 36; footprints numb horses 1. 36; full-grown 7. 47; and Gelon 13. 1; gentle when full-fed 4. 15; lies down to suckle cubs 5. 50(ii); numbed by squill 1. 36; and ox and calf 8. 14; parturition 4. 4; poisons what it mangles 1. 38(ii); respects shrine of Pan 11. 6; reveals sacrilege 10. 26; — stolen treasure 12. 40; and Sun 10. 25; as weather-prophet 7. 8; and wolf's-bane 9. 18; young of 7. 47; also 1. 31; 11. 37  
 Wolf's-bane (*λυκοκτόνον*) 9. 18. See also Aconite  
 Women, of Attica 9. 26; 11. 27; excluded from Olympic Games 5. 17; of Paonia 7. 12. See also 4. 11; 16. 24  
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 Woodpecker (*δρυοκολάπτης*) 1. 45  
 Wool (*ἐριον*), of sheep mauled by wolf 1. 38(ii); used as bait in fishing 12. 43; also 5. 3; 7. 42; (*μαλλός*) 15. 10; (*ἐρέα* ?) in fishing line 2. 22  
 Worm (*ἐλμινς*), in dogs 5. 46; 8. 9; in man 9. 33; (*ελμή*) in plants 16. 14; (*σκώληξ*) in dwarf-palm 14. 13; monstrous, in the Indus 5. 3. See also Earthworm  
 Wormwood (*δισρότονον*), medicinal properties 9. 33; (*ἀψύθιον*) sheep eat 5. 27  
 Wrack (*φύκιον*), see Grass-wrack  
 Wrasse (*κόσσανφος*), how caught 1. 15; polygamous 1. 14; three kinds 12. 28; white 14. 23  
 —, Parrot-, see Parrot Wrasse  
 —, Rainbow-, see Rainbow Wrasse

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Writing, done by elephant **2. 11**

Wryneck (*ὄρυξ*) **6. 19**

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—, horse of Achilles **4. 54; 12. 3**

Xenophon, character in Cratinus **12. 10**

—, Cilician boy, loved by dog **1. 6**

Xerxes, king of Persia, his camels **17. 36; also 13. 20**

Yak **18. 11**

Year (*ἑκάβας*), term explained **10. 26**

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Young, of animals, suckling of **5. 50(ii)**; various names for **7. 47**

Zacynthus, spiders in **17. 11**

Zaleucus, lawgiver **6. 61**

Zeno, Stoic philosopher **4. 45**

Zeus, and Aphrodite **14. 28**; and Crete **5. 2**; eagle of Z. **9. 10**; and frogs **3. 37**; sacrifices to, kites do not touch **2. 47**; temple of, at Labranda **12. 30; also 6. 50, 51**

*Epithets*: *ἑταίρειος* **7. 10**; *ξένιος* **5. 14(ii)**; *πολιεύς* **11. 33, 40**; *χαρίτων ἐφορος* **17. 37**

### III. CLASSIFIED CATALOGUE OF FAUNA, FLORA, ETC.

#### I. MAMMALS

- Acomys *Mus cahirinus*  
 Ampelus (leopard), perh. *Felis serval*  
 Antelope *Bubalis mauritanica*  
 Ass *Equus asinus*  
 Aurochs *Bos bonasus*  
 Baboon *Cynocephalus babuin*  
 Bat *Vespertilio serotinus*  
 Bear *Ursus arctos*  
 Beaver *Castor fiber*  
 Blind-rat *Spalax typhlus*  
 Boar *Sus scrofa*  
 Bull *Bos taurus*  
 Camel *Camelus bactrianus*  
 Cartazonus *Rhinoceros indicus*  
 Cat, domestic *Felis domestica*; wild  
     *F. catus*  
 Chimpanzee *Troglodytes niger*  
 Corocottas *Hyaena crocuta*  
 Cow *Bos femina*, *Vacca*  
 Deer *Cervus elaphus*  
 Dog *Canis familiaris*  
 Dolphin *Delphinus delphis*  
 Dugong *Halocore dugong*  
 Elephant *Elephas africanus* and *E.*  
     *indicus*  
 Elk, see Tarandus  
 Fawn, see Deer  
 Field-mouse, gen. *Mus silvaticus*  
 Fox *Canis vulpes*  
 Gazelle *Antelope dorcas*  
 Gibbon *Hylobates hulok*  
 Gnu *Catoblepas gnu*  
 Goat *Capra hircus*  
 Gorilla *Troglodytes gorilla*  
 Hare *Lepus timidus*  
 Hedgehog *Erinaceus europaeus*  
 Hippopotamus *H. amphibius*  
 Horse *Equus caballus*  
 Hunuman *Semnopithecus entellus*  
 Hyena *Hyaena striata*  
 Ibex *Ovis lervia*  
 Ichneumon *Herpestes ichneumon*  
 Jackal *Canis aureus*  
 Jerboa *Dipus aegypticus*  
 Kepos (monkey) *Cercopithecus pyrrhonotus*  
 Killer Whale *Orca gladiator*  
 Leopard *Felis pardus*  
 Lion *Felis leo*  
 Lynx *Felis lynx*  
 Mandrill *Cynocephalus maimon*  
 Mantichore, fabulous  
 Marmot *Arctomys bobac*  
 Marten *Mustela martes*  
 Mole *Spalax typhlus*  
 Monkey, see Baboon, Chimpanzee,  
     Gibbon, Kepos, Mandrill, Sphinx  
 Mouse *Mus musculus*  
 Mule *Mulus*  
 Onocentaura, see Chimpanzee  
 Otter *Lutra vulgaris*  
 Pangolin *Manis longicauda*  
 Panther *Felis pardus panthera*  
 Pig, gen. *Sus*  
 Porcupine *Hystrix cristata*  
 Pricket, see Deer  
 Rabbit *Lepus cuniculus*  
 Rat *Epimys norvegicus*?  
 Reindeer *Rangifer tarandus*  
 Rhinoceros *Rhinoceros indicus*  
 Roe-deer *Cervus capreolus*  
 Satyr (monkey), see Gibbon  
 Sea-calf = ? Walrus, *Odobenus rosmarus*  
 Seal *Phoca vitulina*  
 Sheep *Ovis aries*  
 Shrew-mouse *Sorex araneus*  
 Sphinx (ape) *Cercopithecus Diana*  
 Tarandus *Alces malchis*?  
 Tiger *Felis tigris*  
 Udad *Ovis lervia*  
 Unicorn, fabulous  
 Warthog *Phaeochoerus aethiopicus*  
 Whale *Balaena biscayensis*  
 Wolf *Canis lupus*  
 Yak *Poephagus grunniens*

# INDEX: FAUNA, FLORA, ETC.

## 2. BIRDS

- Adjutant *Leptopilius argala*  
 Aegyptian, perh. *Lammergeier*, *q.v.*  
 Asterias (i) perh. Starling, *q.v.*; (ii)  
     Golden Eagle, *q.v.*  
 Beccafico *Sylvia atricapilla*  
 Bee-eater *Merops apiaster*  
 Blackbird *Turdus merula*  
 Blue Tit *Parus cyanus*  
 Boccalis, unidentified  
 Brenthus, unidentified  
 Bustard *Otis tarda*  
 Buzzard *Buteo vulgaris*  
 Ceryl, unidentified  
 Chaffinch *Fringilla coelebs*  
 Chicken, Cock *Gallus gallinaceus*  
 Cinnamon bird, fabulous  
 Circe, unidentified  
 Clapperbill *Pluvianus aegyptius*  
 Corn-crake[?] *Rallus crex*  
 Crane *Grus cinereus*  
 Crested Lark *Alauda cristata*  
 Crow *Corvus corone*  
 Cuckoo *Cuculus canorus*  
 Dabchick *Podiceps ruficollis*  
 Dove (i) *Crocopus chlorogaster* 16. 2;  
     (ii) *Columba palumbus*  
 Dove-killer *Astur palumbarius*  
 Duck *Anas boschas*  
 Duck-killer, sp. *Aquila*  
 Eagle, sp. *Aquila*  
 Egyptian Goose *Chenalopez aegypti-*  
     *acus*  
 Egyptian Plover *Pluvianus aegyptius*  
 Falcon, gen. *Falco*  
 Francolin *Tetrax francolinus*  
 Goatsucker *Caprimulgus europaeus*  
 Golden Eagle *Aquila chrysaetus*  
 Golden Oriole *Oriolus galbula*  
 Goldfinch *Carduelis elegans*  
 Goose *Anser cinereus*  
 Greenfinch *Fringilla chloris*  
 Guinea-fowl *Numida meleagris*  
 Halcyon *Alcedo ispida*  
 Harpe, perh. Sea-hawk, *q.v.*  
 Hawk, gen. *Accipiter*  
 Heron *Ardea cinerea*  
 Heron, Buff-backed *Ardea bubulcus*  
 Hoopoe *Upupa epops*  
 Hornbill, sp. *Bucero*  
 Ibis White *Tantalus aethiopicus*; Black  
     *Falcinellus igneus*  
 Jackdaw *Corvus monedula*  
 Jay *Garrulus glandarius*  
 Kestrel *Falco tinnunculus*  
 Kite *Milvus icinus*  
 Lammergeier *Gypaetus barbatus*  
 Lark *Alauda arvensis*  
 Little Cormorant *Phalacrocorax pyg-*  
     *maeus*  
 Manal Pheasant *Lophophorus impey-*  
     *anus*  
 Marsh Tit *Parus palustris*  
 Merlin *Falco aesalon*  
 Mermnus, perh. *Buteo desertorum*  
 Mynah *Gracula religiosa*  
 Night-hawk *Strix uralensis?*  
 Nightingale *Daulias luscini*  
 Ocypterus *Accipiter nisus*  
 Orion, fabulous  
 Orites, perh. *Falco sacer*  
 Ortolan *Emberiza hortulana*  
 Ostrich *Struthio camelus*  
 Owl *Athene noctua*  
 Owl, Little Horned *Strix scops*  
 Pappus, unidentified  
 Parrot *Palaeornis cyanocephalus*  
 Partridge *Perdix graeca* (or *saxatilis*)  
 Partridge-catcher, perh. *Astur*  
     *brevipes*  
 Peacock *Pavo cristatus*  
 Pelican *Pelicanus crispus*  
 Pheasant *Phasianus colchicus*  
 Pigeon *Columba palumbus*  
 Purple Coot *Porphyrio veterum*  
 Pyrallis, unidentified  
 Quail *Coturnix vulgaris*  
 Raven *Corvus corax*  
 Reedwarbler [?] *Acrocephalus arundi-*  
     *naceus*  
 Ring-dove *Columba palumbus*  
 Robin *Erithacus rubecula*  
 Rock-dove *Columba livia*  
 Roller *Coracias garrulus*  
 Rose-coloured Pastor *Pastor roseus*  
 Ruff *Machetes pugnaz*  
 Salpinx, unidentified  
 Sand-partridge *Ammoperdix Bonhami*  
 Sea-eagle *Pandion haliaetus*  
 Sea-hawk *Megalestris catarractes*  
 Sea-mew *Larus canus*  
 Seagull, gen. *Larus*  
 Shearwater *Puffinus kuhli*  
 —, Little Manx *P. yelkuan*  
 Siren (ii) *Serinus hortulanus*  
 Siskin *Fringilla spinus*  
 Skua, Great, *see* Sea-hawk  
 Sparrow *Passer domesticus*

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Spindalud, unidentified  
 Starling *Sturnus vulgaris*  
 Stone-curler *Charadrius oedicephalus*  
 Stork *Ciconia alba*  
 Swallow *Hirundo rustica*  
 Swan *Cygnus olor*  
 Syrian Nuthatch *Sitta syriaca*  
 Thrush *Turdus musicus*  
 Titmouse *Parus major*  
 Turtle-dove *Turtur communis*  
 Vulture *Gyps fulvus*  
 Wagtail, sp. *Motacilla*  
 Wide-wing, sp. *Circus*  
 Woodpecker *Picus martius*  
 Wryneck *Yunx torquilla*

## 3. REPTILES

Acontias *Zamenis gemonensis*  
 Amphisbaena *Typhlops vermicularis*?  
 Asp *Naja haje*  
 Basilisk, fabulous  
 Blood-letter *Vipera latastei*?  
 Cerastes *Cerastes cornutus*  
 Chameleon *Chamaeleo vulgaris*  
 Chelydrus *Tropidonotus tessellatus*  
 Cobra, see Asp  
 Crocodile *Crocodilus vulgaris*; Gang-  
 etic *Gavialis gangeticus*; Indian *C.*  
*palustris*  
 —, Land- *Psammosaurus griseus*  
 Dipsas *Vipera prester*  
 Gecko *Platydictylus mauritanicus*  
 Lizard (i) *Lacerta viridis*; (ii) gen.  
*Varanus* 16. 41  
 Melanurus, see Dipsas  
 Pareas *Coluber longissimus*, or *Aescu-*  
*lapii*  
 Prester, see Dipsas  
 Purple Snake *Dryophis intestinalis*  
 Python *Python molurus*, or *P. cebae*?  
 Salamander *Salamandra maculosa*  
 Sepeidon, unidentified  
 Seps *Vipera macrops*  
 Snake, generic term  
 Thermuthis, see Asp  
 Tortoise *Testudo graeca*  
 Turtle (i) *Thalassochelys caretta*; (ii)  
 perh. *Trionyx gangeticus*. See also  
 16. 14n.  
 Typhlops *Pseudopus pallasi*  
 Viper *Vipera aspis*  
 Water-snake, see Chelydrus

## 4. AMPHIBIA

Frog *Rana agilis*; *R. graeca*, 3. 37  
 Toad *Bombinator pachypus*

## 5. FISHES

Adonis, unidentified  
 Anchovy *Engraulis encrasicolus*  
 Anthias, unidentified  
 Aulopias *Thynnus alalunga*?  
 Basse *Lupus labrax*  
 Black Sea-bream *Cantharus lineatus*  
 Blue-grey, unidentified  
 Caprus, unidentified  
 Carp *Cyprinus carpio*  
 Cat-fish *Parasilurus Aristotelis*  
 Charax, unidentified  
 Chromis, perh. *Umbrina cirrhosa*  
 Conger-eel *Conger vulgaris*  
 Crane-fish, perh. *Regalecus Banksi*  
 Crow-fish (i) *Chromis castanea*; (ii) un-  
 identified, 14. 23; 26  
 Dog-fish *Mustelus laevis*  
 Eel *Anguilla vulgaris*  
 Etna-fish, unidentified  
 Fishing-frog *Lophius piscatorius*  
 Flounder *Pleuronectes flesus*  
 Flying-fish *Exocoetus volitans*  
 Flying Gurnard *Dactylopterus volitans*  
 Fox-shark *Alopias vulpes*  
 Garfish *Belone acus*  
 Gilthead *Chrysophrys aurata*  
 Globe-fish *Diodon hystrix*  
 Gnawer, perh. *Alopias vulpes*  
 Goby, sp. *Gobius*  
 Grayling *Thymallus vulgaris*  
 Great Sea-perch *Polyprion cernium*  
 Great Tunny *Thynnus thynnus*  
 Gurnard, sp. *Trigla*  
 Hake *Gadus merluccius*  
 Hammer-headed Shark *Zygaena*  
*malleus*  
 Harper, sp. *Chaetodon*  
 Hepatus, unidentified  
 Horned Ray *Cephaloptera giorno*  
 Horse-mackerel *Caranx trachurus*  
 Hyena-fish, unidentified  
 John Dory *Zeus faber*  
 Leopard-fish, unidentified  
 Mackerel *Scomber scomber*  
 Macotes, unidentified  
 Maigre *Sciaena aquila*  
 Maltha, unidentified

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Marten-fish, perh. *Motella trcirrata*  
 Melanurus *Oblata melanurus*  
 Minnow [?], unidentified  
 Moon-fish, unidentified  
 Moray *Muraena helena*  
 Mullet, Grey, sp. *Mugil*  
 Mullet, Red *Mullus barbatus*  
 Myllus, unidentified  
 Myrus *Muraenophis unicolor*  
 Nile Perch *Lates niloticus*  
 Oxyrhynchus *Mormyrus caschive*  
 Parrot Wrasse *Scarus cretensis*  
 Pelamyd *Pelamys sarda*  
 Perch *Perca fluviatilis*  
 Perseus, sp. *Lutianus*  
 Phagrus, unidentified  
 Physa *Tetrodon fahaka*  
 Pilot-fish *Naucrates ductor*  
 Pipe-fish *Syngnathus acus*  
 Piper, sp. *Trigla*  
 Plaice *Pleuronectes platessa*  
 Porpoise *Delphinus phocaena*  
 Prepon, unidentified  
 Pristis, unidentified  
 Rainbow Wrasse *Coris iulis*  
 Ram-fish, perh. *Orca gladiator*  
 Sardine *Clupea pilchardus*  
 Sargue *Sargus vulgaris*  
 Saupe *Boz salpa*  
 Schall *Synodontis schall*  
 Scorpion-fish, unidentified  
 Sea-bream *Pagrus vulgaris*  
 Sea-hare (ii), sp. *Diodon*  
 Sea-horse *Hippocampus antiquorum*  
 Sea-lion (ii), unidentified  
 Sea-monkey, perh. *Maltha*  
 Sea-perch *Serranus cabrilla*  
 Sea-sheep, unidentified  
 Shark *Squalus carcharias*  
 Sheat-fish *Silurus glanis*  
 Skate, sp. *Raja*  
 Smelt *Osmerus eperlanus*  
 Spanish Mackerel *Scomber colias*  
 Sparus, Four-toothed *Dentex vulgaris*  
 Spiny Dog-fish *Centrina salviani*  
 Sprat *Aphua minuta*  
 Star-gazer *Uranoscopus scaber*  
 Sting-ray *Trygon pastinaca*  
 Sturgeon *Acipenser sturio*  
 Sucking-fish *Echeneis remora*  
 Sword-fish *Xiphias gladius*  
 Torpedo *Torpedo marmorata*  
 Trochus, unidentified  
 Tunny *Thynnus thynnus*  
 Turbot *Pleuronectes maximus*

Water-phenix, perh. sp. *Chaetodon*  
 Weever *Trachinus draco*  
 Wrasse *Labrus merula*

## 6. INSECTS

Ant (i) fam. *Formicidae*; (ii) sub-fam. *Myrmicinae*, 6. 43; (iii) Indian, see Termite  
 Bee *Apis mellifica*  
 Beetle (*κύνθαρος*) *Scarabaeus pilularius*; (*σφονδύλη*), see 8. 13n.  
 Blister-beetle, fam. *Meloidae*  
 Bumble-bee, fam. *Bombidae*  
 Buprestis, unidentified  
 Cabbage-caterpillar, larva of *Pieris rapae*  
 Cicada, fam. *Cicadidae*  
 Cockroach, gen. *Blattidae*. See also 1. 37n.  
 Codling-moth *Carpocapsa pomonella*  
 Cricket *Acheta* or *Gryllus campestris*  
 Day-fly *Ephemera longicauda*  
 Dog-fly, fam. *Stomoxidae*  
 Dung-beetle *Scarabaeus sacer*  
 Ephemera, gen. *Drosophila*  
 Fire-flies, unidentified  
 Fly *Musca domestica*  
 Gaddy, fam. *Tabanidae*  
 Gnat, fam. *Culicidae*  
 Grasshopper *Locusta viridissima*  
 Hippurus *Stratiomys chameleo*  
 Horse-fly *Tabanus bromius*  
 Lac-insect *Tachardia lacca*  
 Laertes, (i) ant, unidentified; (ii) wasp (? or hornet *Vespa crabro*)  
 Lion's-bane, unidentified  
 Locust, fam. *Acrididae*  
 Louse *Pediculus humanus*  
 Mosquito, fam. *Culicidae*  
 Moth, fam. *Heterocera*  
 Scarab *Scarabaeus sacer*  
 Siren (i) bee, see 5. 42n.  
 Termite, order *Isoptera*  
 Wasp *Vespa vulgaris*  
 Wax-moth *Galleria cereana*

## 7. ARACHNIDA

Four-jawed spider *Galeodes arabs*  
 Grape-spider *Lathrodectus tredecimguttatus*  
 Malmignatte = Grape-spider?

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Monkey-spider = Grape-spider?  
Scorpion, see 6. 20n.

## 8. CRUSTACEANS

Crab, common, edible *Cancer pagurus*  
Crab, Flying, unidentified  
Crab, generic term *Decapoda brachyura*  
Crab, River- *Thelphusa fluviatilis*  
Crayfish *Palinurus vulgaris*  
Hermit-crab *Pagurus bernhardus*  
Lobster *Hommarus gammarus*  
Prawn *Palaemon squilla*  
Runner-crab *Cancer cursor*  
Sea-lion (i), see Lobster

## 9. MOLLUSCS

Areion *Arion empiricorum*  
Argonaut *Argonauta argo*  
Clam, gen. *Chama*  
Cuttlefish *Sepia officinalis*  
Limpet *Patella haliotis*  
Mussel *Mytilus edulis*  
Nautilus, see Argonaut  
Nerites, unidentified  
Octopus *Octopus vulgaris*  
Osmylus *Eledone moschata*  
Oyster *Ostrea edulis*  
Pearl-oyster *Meleagrina margaritifera*  
Pinna *Pinna nobilis*  
Purple Shellfish *Murex trunculus*  
Sea-cicada *Arctos ursor*  
Sea-hare (i) *Aplysia depilans*  
Sea-snail *Mitra papalis*, 11. 21  
Shellfish, of Red Sea, sp. *Tridachna*  
Snail, gen. *Helicidae*  
Spiral-shell, fam. *Buccinidae*  
Squid *Loligo vulgaris*  
Trumpet-shell *Tritonium nodiferum* or  
*Ranella gigantea*, 16. 12  
Whelk *Cerithium vulgatum*

## 10. ANNULATA

Centipede *Scolopendra morsitans*  
Earthworm *Lumbricus terrestris*  
Leech *Hirudo limnatis*, *Cambala annu-*  
*lata*  
Leek-cutter, 'prob. a Milliped', L-S?  
Sea-scolopendra, unidentified  
Worm, in man *Ascaris lumbricoides*  
—, in dog *A. mystax*

## 11. ECHINODERMS

Sea-urchin, gen. *Echinus*  
Star-fish, gen. *Asterias*

## 12. COELENTERATA

Jelly-fish, gen. *Acalephe*  
Sea-anemone, gen. *Actinia*

## 13. PORIFERA

Sponge *Spongia aautorum*

## 14. TREES, SHRUBS, AND PLAN

Aconite *Aconitum anthora*  
Agnus-castus *Vitex agnus-castus*  
Almond *Prunus amygdalus*  
Apple *Pyrus malus*  
Ash *Fraxinus ornus*  
Barley *Hordeum sativum*  
Bay *Laurus nobilis*  
Beet *Beta maritima*  
Bindweed *Smilax aspera*  
Bitter Vetch *Ervum ervilia*  
Box *Buxus sempervirens*  
Buck-thorn *Rhamnus graeca*  
Cabbage *Brassica cretica*  
Cane *Bambusa arundinacea*  
Cedar *Juniperus excelsa*  
Celandine, Greater *Chelidonium majus*  
Celery *Apium graveolens*  
Cinnamon *Cinnamomum cassia*  
Citrus *Callitris quadrivalvis*  
Club-rush *Scirpus holoschoenus*  
Comfrey *Symphytum bulbosum*  
Coriander *Coriandrum sativum*  
Cork-oak *Quercus suber*  
Cornel *Cornus mas*  
Cretan alexanders *Smyrniun per-*  
*foliatum*  
Cuckoo-pint *Arum italicum*  
Cypress *Cupressus sempervirens*  
Date-palm *Phoenix dactylifera*  
Dog's-tooth grass *Cynodon dactylon*  
Dwarf-palm *Chamaerops humilis*  
Elecampene *Inula helenium*  
Esparto *Stipa tenacissima*  
Fennel *Foeniculum vulgare*  
Fig *Ficus carica*  
Flax *Linum usitatissimum*



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- Flax, White *Camelina sativa*  
 Fleabane, sp. *Inula*  
 Galingale *Cyperus rotundus*  
 Garlic *Allium sativum*  
 Grapes (seaweed) *Fucus volubilis*  
 Grass-wrack *Cymodocea nodosa*  
 Hair (seaweed) *Cystoseira foeniculosa*  
 Hellebore, White *Veratrum album*  
 Hemlock *Conium maculatum*  
 Henbane *Hyoscyamus niger*  
 Ilex *Quercus ilex*  
 Iris, gen. *Iris*  
 Ivy *Hedera helix*  
 Juniper *Juniperus macrocarpa*  
 Leek *Allium porrum*  
 Leopard's-choke *Aconitum anthora*  
 Lettuce, Wild *Lactuca scariola*  
 Lucerne *Medicago sativa*  
 Madwort *Farsetia clypeata*  
 Maidenhair Fern *Adiantum capillus-Veneris*  
 Mallow *Malva silvestris*  
 Marjoram *Origanum heracleoticum*  
 Mastic tree *Pistachia lentiscus*  
 Millet *Panicum miliaceum*  
 Mullein *Verbascum sinuatum*  
 Mustard *Sinapis alba*  
 Myrtle *Myrtus communis*  
 Nettle *Urtica*  
 Oak *Quercus robur*  
 Olive *Olea europaea*  
 —, Wild *Olea oleaster*  
 Onion *Allium cepa*  
 Oyster-green *Ulva lactuca*  
 Palm *Phoenix dactylifera*  
 Pancynium (seaweed), unidentified  
 Papyrus *Cyperus papyrus*  
 Pea *Cicer arietinum*  
 Peony *Paeonia officinalis*  
 Pepper *Piper nigrum*  
 Persea *Mimusops schimperii*  
 Picris, see 1. 35n.  
 Pine (νεύκη) *Pinus laricio*; (πίτρυς) *P. halepensis*  
 Plane *Platanus orientalis*  
 Pomegranate *Punica granatum*  
 Pondweed *Potamogeton natans*  
 Poplar *Populus nigra*  
 Poppy *Papaver somniferum*  
 Reed, perh. *Arundo donax*  
 Rice *Oryza sativa*  
 Rocket *Eruca sativa*  
 Rose *Rosa gallica*  
 Rose-laurel *Nerium oleander*  
 Rosemary-frankincense *Lecokia cretica*  
 Rue *Ruta graveolens*  
 Rush, sp. *Juncus*  
 Sea-cole *Convolutulus soldanella*  
 Seaweed, gen. *Algae*  
 Silphium *Perula tingitana*  
 Silver-fir *Abies cephalonica*  
 Spurge *Euphorbia peplus*  
 Squill *Urginea maritima*  
 Sumach *Rhus coriaria*  
 Thistle *Cnicus syriacus*  
 Thyme *Thymbra capitata*  
 Tree-medick *Medicago arborea*  
 Vervain *Verbena officinalis*  
 Vine *Vitis vinifera*  
 — (seaweed) *Fucus spiralis*  
 Water-mint *Mentha viridis*  
 Wheat *Triticum vulgare*  
 Willow *Vitex agnus-castus*  
 Wolf's-bane, see Aconite  
 Wormwood *Artemisia arborescens*  
 Yew *Taxus baccata*

## 15. METALS AND MINERALS

- Amber  
 Bitumen  
 Bronze  
 Eagle-stone  
 Emerald  
 Gold  
 Iron  
 Lapis lazuli  
 Lead  
 Lignite  
 Magnet  
 Pearl  
 Rock-crystal  
 Salt  
 Sodium carbonate  
 Thracian stone  
 Tortoise-stone  
 Touchstone  
 Vermilion

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Agatharcides, of Onidus, 2nd cent. B.C., Peripatetic, voluminous historical and geographical writer 5. 27; 16. 27

Alcman, lyric poet, active in Sparta, second half of 7th cent. B.C. 12. 3

Alexander, of Myndus in Caria, early in 1st cent. A.D., wrote on zoology, paradoxa, dreams, and mythology 3. 23; 4. 33; 5. 27; 10. 34; 17. 1 (?); p. xvi f., xxix

Amometus, 3rd cent. B.C., wrote an *Ἀνάηλος ἐκ Μέρφους* and on the geography of India 17. 6

Amyntas, 4th cent. B.C., wrote upon the Persian expedition of Alexander the Great, and perhaps accompanied him 5. 14(i); 17. 17; p. xvi

Anacreon, of Teos, 5th cent. B.C., wrote poems in elegiac, iambic, and various lyrical metres 4. 2; 7. 39

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Antiphon, Attic orator, 5th cent. B.C. 5. 21

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Apollodorus, 3rd cent. B.C., doctor and naturalist, was the prime authority on poisons for all subsequent writers

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Apollonius, of Rhodes, 3rd cent. B.C., head of the Alexandrian library, chiefly famous for his epic poem on the Argonauts 15. 23

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Aristotle, 384-322 B.C., philosopher 2. 34, 39, 49, 52; 3. 24, 40, 45; 4. 6, 57-8; 5. 8, 11 (bis), 14(i), 27, 34, 43; 6. 3, 14, 18(?), 49; 7. 13; 8. 1, 9; 10. 11, 32, 36; 11. 12, 18; 12. 6, 12, 14, 35, 40; 13. 4; 15. 25, 28; 16. 33 (ter), 41; 17. 7 (bis), 15, 20; p. xv, xxiv

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- Autocrates, of Athens, 5th/4th cent. B.C., wrote tragedies and comedies **12. 9**
- Bacchylides, of Ceos, 5th cent. B.C., nephew of Simonides (*q.v.*), wrote epicnician odes, dithyrambs, hymns, paeans, etc. **6. 1**
- Callias, of Syracuse, 4th/3rd cent. B.C., his history of Agathocles, Tyrant of S. (316-289), was regarded as too favourable **16. 28**
- Callimachus, of Cyrene, c. 305-c. 240 B.C., employed in the library of Alexandria, wrote hymns and other poems in a great variety of metres, also prose works on birds, rivers, etc. **6. 58; 9. 27; 15. 28**
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- Cleanthes, Stoic philosopher, 331-232 B.C., succeeded his master Zeno as head of the Stoic school at Athens **6. 50**
- Clearchus, of Soli, 3rd cent. B.C., wrote on philosophy, natural history, painting, and biographical works **12. 34**
- Cleitarchus, of Alexandria, 3rd cent. B.C., wrote an untrustworthy account of Alexander the Great **17. 2, 22-3, 25**
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- Cratinus, 5th cent. B.C., the older contemporary and rival in Comedy of Aristophanes and Eupolis **12. 10**
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- Otesias, of Cnidus, late 5th cent. B.C., wrote a history of Persia, where he spent some years as doctor to Artaxerxes, and a work on India **3. 3; 4. 21, 26-7, 46(1), 52; 5. 3; 7. 1; 16. 31, 42; 17. 29; p. xvi**
- Damon, of Athens, 5th cent. B.C., taught Socrates, wrote on music, cited with approval by Plato **2. 11**
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- Euphron, of Chalcis in Euboea, fl. latter half of 3rd cent. B.C., grammarian and poet at the court of Antiochus the Great 7. 48; 17. 28
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- Hecataeus, of Miletus, 6th/5th cent. B.C., visited Egypt, Libya, and perh. Spain, wrote on genealogies and topography 9. 23; 13. 22
- Hegemon, of Alexandria in the Troad, 4th cent. B.C.(?), epic poet, celebrated the victory of Thebes over Sparta at the battle of Leuctra, 371 B.C. 8. 11
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- Tyrtaeus, of Sparta, 7th cent. B.C., elegiac poet, wrote war-songs and political verse 6. 1
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